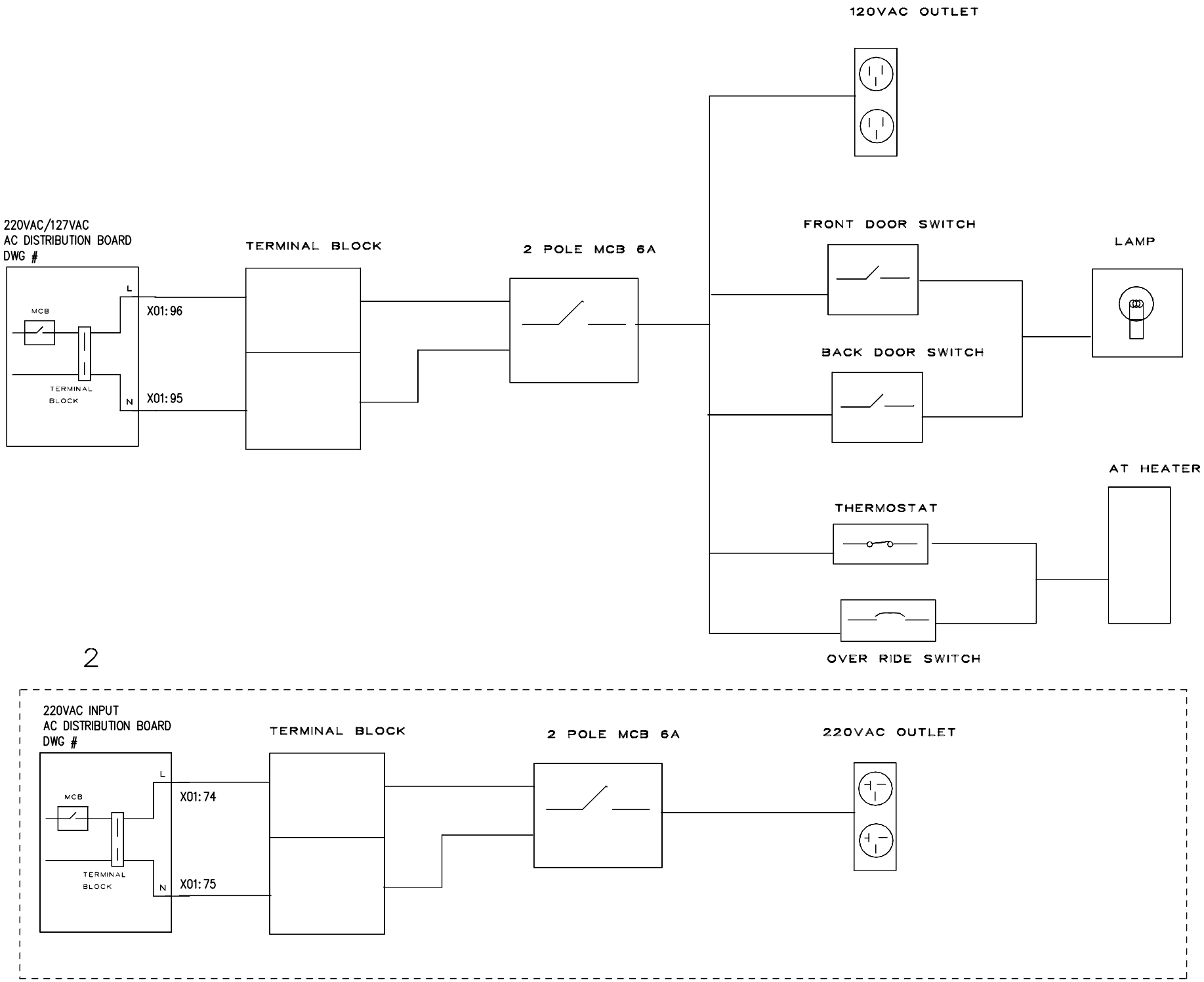
JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195354	01 OF 02	00



NOTES

1. AC DISTRIBUTION BOARD DRAWING NUMBER TO BE IDENTIFIED AT SITE.
2. PANEL HAS PROVISION FOR BOTH 127VAC & 220VAC CONNECTION AS WELL. CONNECTION CAN BE MADE DEPENDING ON AVAILABILITY.
3. BUT THE S/S PRIMARY AC VOLTAGE SHOULD BE IDENTIFIED.

LEGEND

1. MCB – MINIATURE CIRCUIT BREAKER
2. AT – HEATER – ANTI CONDENSATION HEATER

ABB Contracting Co., Ltd. — P.O. Box 91926 Riyadh 11643 — Tel: 2653030 — C.R.1010028640

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0	12/01	MRA	DETAIL DESIGN	MRA	AS	

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Saudi Electricity Company

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DATE STARTED _____ DATE COMPLETED _____
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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

127VAC/220VAC SINGLE LINE DIAGRAM

S/S 8501

ALMAJMAA SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195354	01 of 02	00

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195354	01 OF 02	00

SEC CAD-A 12004/031
DMB VECTOR

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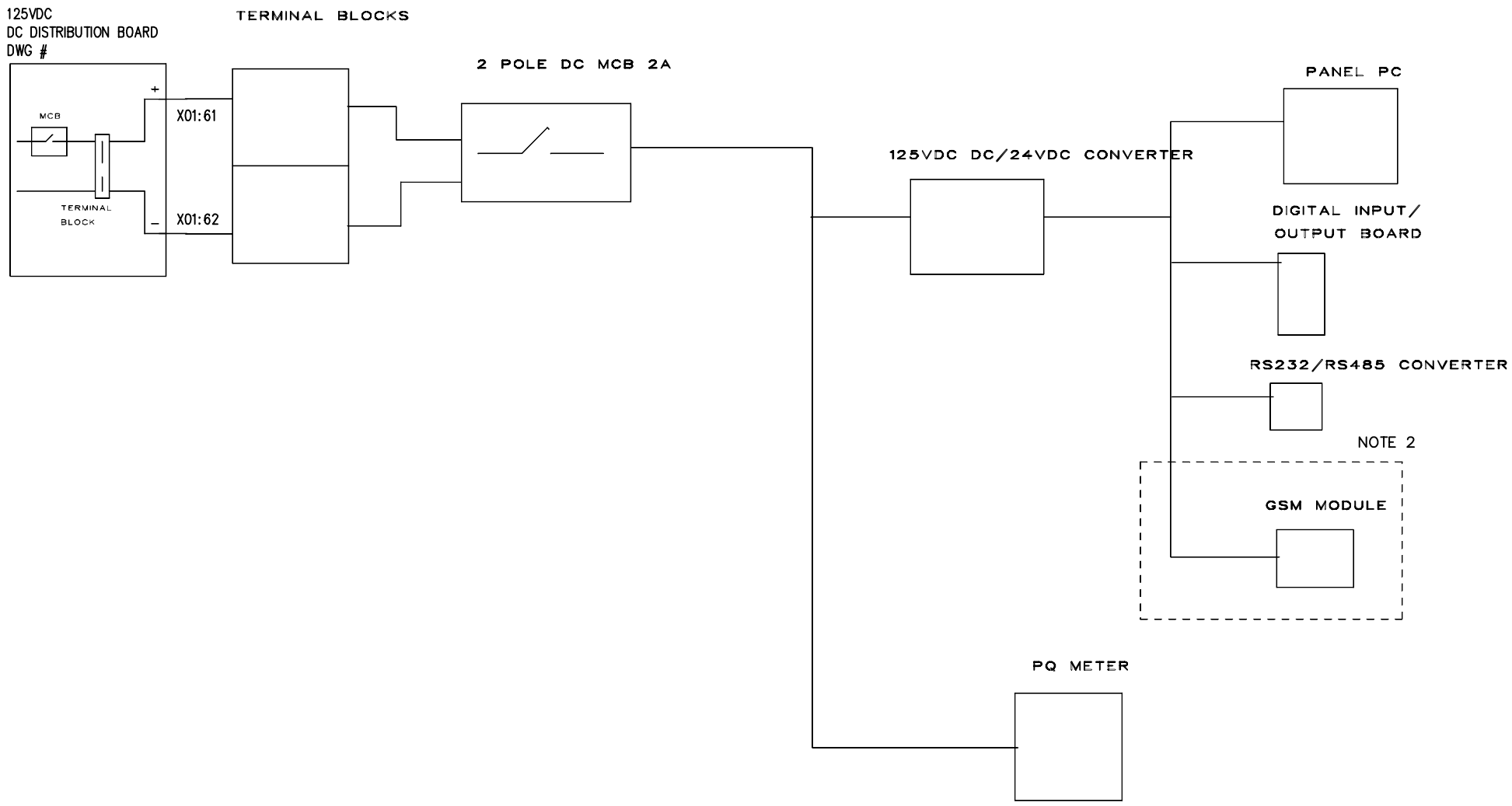

NOTES

1. AC DISTRIBUTION BOARD DRAWING NUMBER TO BE IDENTIFIED AT SITE.
2. TO BE CONNECTED ONLY IF PSTN IS NOT AVAILABLE IN S/S AS BACK UP TO LAN COMMUNICATION.

LEGEND

COM – SERIAL PORT
DP – DIAL UP PORT
LP – LAN PORT

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REFERENCE DRAWINGS

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DRAWING CONTROL SHEET	CD-195353

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

125VDC SINGLE LINE DIAGRAM

S/S 8501

ALMAJMAA SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195354	02 of 02	00

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195354	02 OF 02	00

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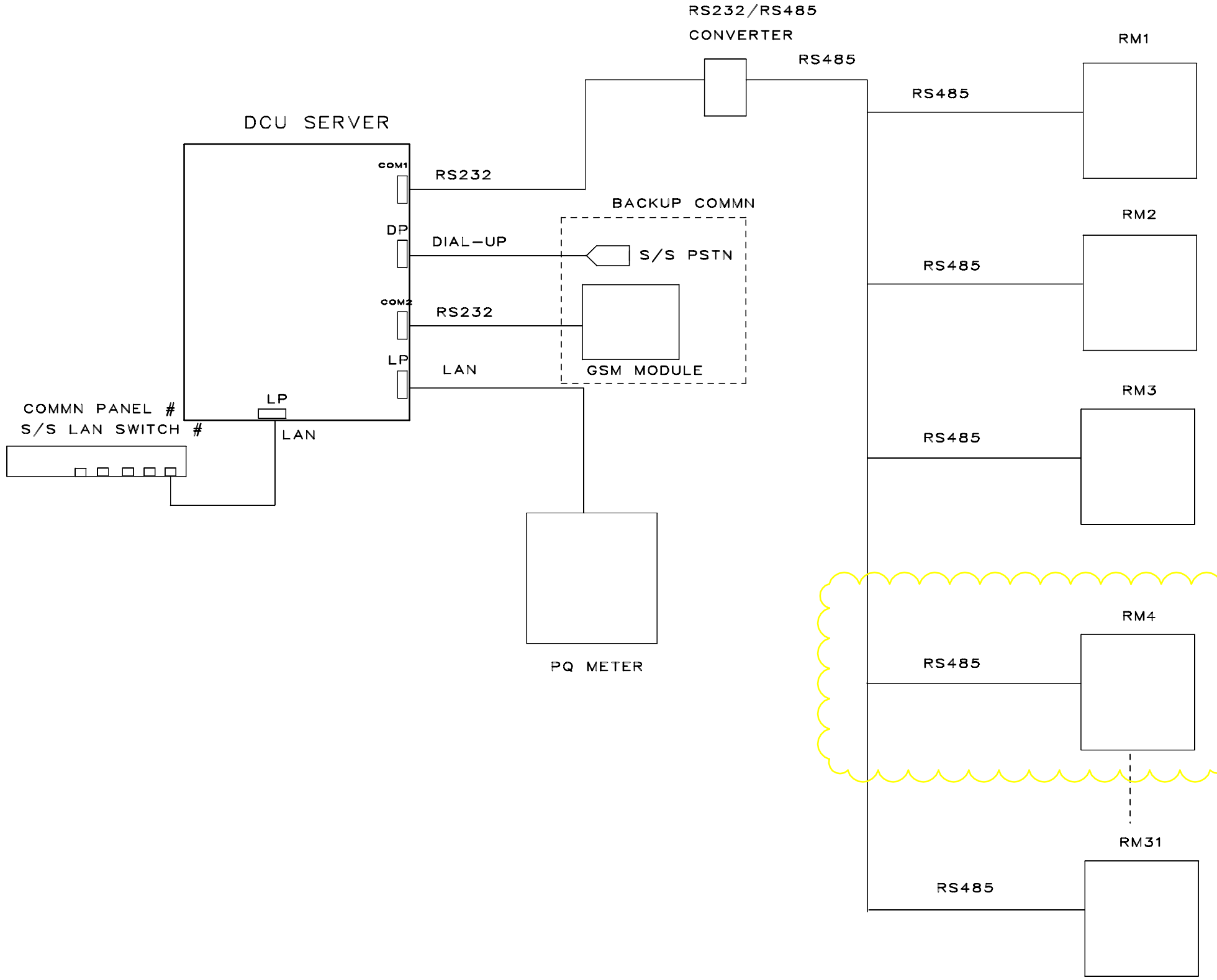
SEC CAD-A 12004/031
DMB VECTOR

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	T	C208	CD-195355	01 OF 01	00



NOTES

1. PRIMARY BACKUP COMMUNICATION IS DIAL UP. BUT IF TELEPHONE IS NOT AVAILABLE THEN GSM IS USED.
2. UPTO 32 METERS CAN BE CONNECTED ON SINGLE RS485 NETWORK
3. LAN SWITCH #/COMMN PANEL # TO BE IDENTIFIED AT SITE BY AUVA

LEGEND

COM – SERIAL PORT
DP – DIAL UP PORT
LP – LAN PORT

ABB Contracting Co., Ltd. P.O. Box 91926 Riyadh 11643 Tel: 2653030 C.R.1010028648

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195355

AS-BUILT BY _____ DATE _____

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

COMMUNICATION SYSTEM DIAGRAM

S/S 8501

ALMAJMAA **SAUDI ARABIA**

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
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MANUFACTURER NAME		
AEC		
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CD-195355	01 OF 01	00

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10931027/00	P	C208	CD-195356	01 OF 10	00

NOTES UNLESS OTHERWISE SPECIFIED:

1. THE TERMINATION RESISTOR MUST BE PRESENT IN EVERY PANEL BUT IT MUST BE CONNECTED TO XCOM1 BY SHORTING XCOM1:1 & XCOM1:2, XCOM1:3 & XCOM1:4
2. VT IS THE VOLTAGE TRANSFORMER
3. CTs & VTs ARE TO BE CONNECTED TO THE METERS VIA FT-SWITCH
4. H1 IS ANTI-CONDENSATION HEATER TO BE CONNECTED TO 127/220VAC
5. USE GROUP MARKER FOR GROUP MARKING
6. USE FERRULING FOR CABLE MARKING
7. FOR EXTERNAL WIRING OF THE PANELS REFER CABLE SCHEDULING OF THE SUBSTATIONS & FOR TESTING FOLLOW THE TEST DOCUMENTS
8. NEUTRAL SHOULD NOT BE CONNECTED TO TH1 THERMOSTAT
9. CONNECT RESISTOR R4 BETWEEN TERMINAL 5 & 6 OF XCOM1 & GROUND TERMINAL 6 OF XCOM1 USING YELLOW GREEN WIRE
10. ALL THE TERMINAL BLOCKS HAVING EXTERNAL WIRING CONNECTIONS LIKE VT.CT.AC/DC TERMINAL BLOCKS SHOULD HAVE WIRE CONNECTION ON THE SIDE OF TERMINAL BLOCK NOT CLOSE TO PANEL ACCESS DOOR
11. ALL THE FERRULES SHOULD BE OUTSIDE RACEWAY, NEAR CONNECTOR & EASILY READABLE WITHOUT TURNING OR MOVING WIRES.
12. FOR CONNECTIONS/FERRULING PLEASE FOLLOW THE TABLE
13. FOR CONNECTIONS/FERRULING PLEASE FOLLOW THE TABLE ON SHEET 10
14. WHEN CONNECTING ELECTRICAL WIRES FOR THE RELAYS MAKE SURE TO CONNECT ON THE SIDE MARKED 'A' FOR ALL PIN NUMBERS
15. TERMINAL 10 IN XC1 TO XC4 TO BE CLOSED IF CT CIRCUIT IS NOT EARTHED ANY OTHER PLACE

NOTES

LEGEND

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

SCHEMATIC DIAGRAM, AUTOMATIC METER READING, METERING PANEL WITH 3 RM METERS W/O RELAYS, S/S 8501

ALMAJMAA SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195356	01 of 11	00

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195356	01 OF 10	00

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DMB VECTOR

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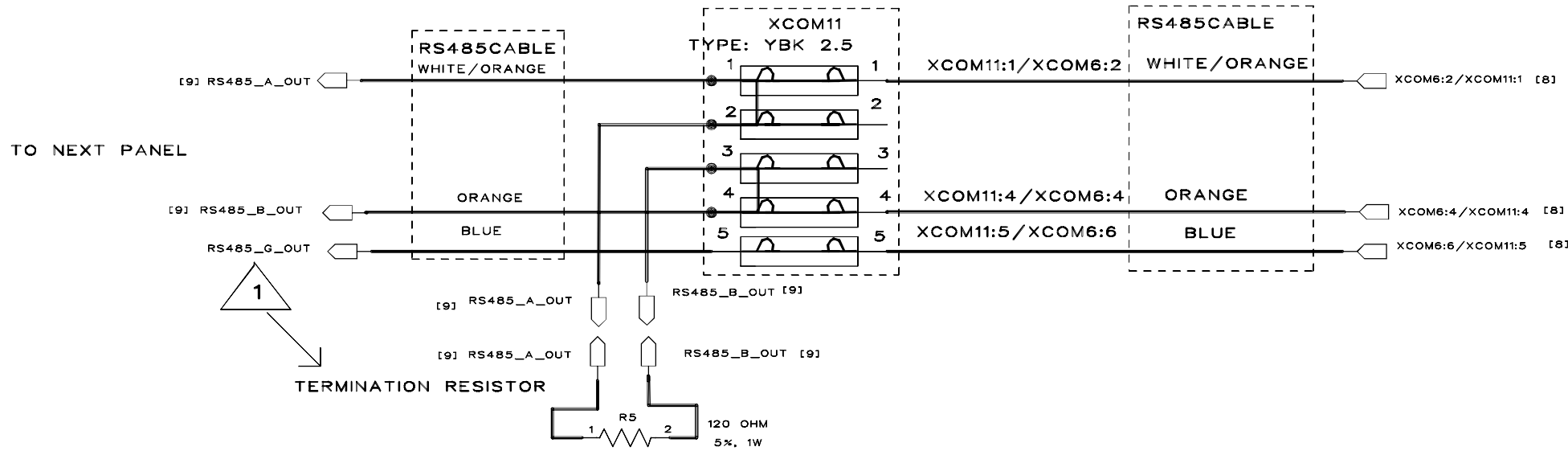
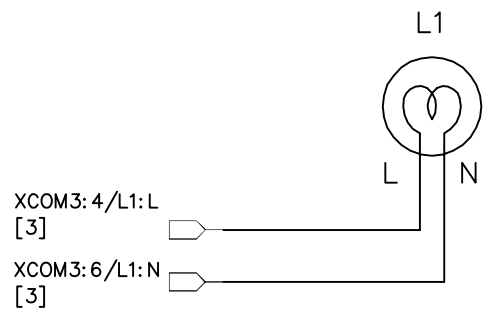
JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195356	09 OF 10	00





NOTES

LEGEND

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DRAWING CONTROL SHEET	CD-195353

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

COMMUNICATION CONNECTIONS INSIDE PANEL

S/S 8501

ALMAJMAA SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195356	10 of 11	00

MANUFACTURER NAME		
AEC		
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CD-195356	09 OF 10	00

SEC CAD-A 12004/031 DMB VECTOR

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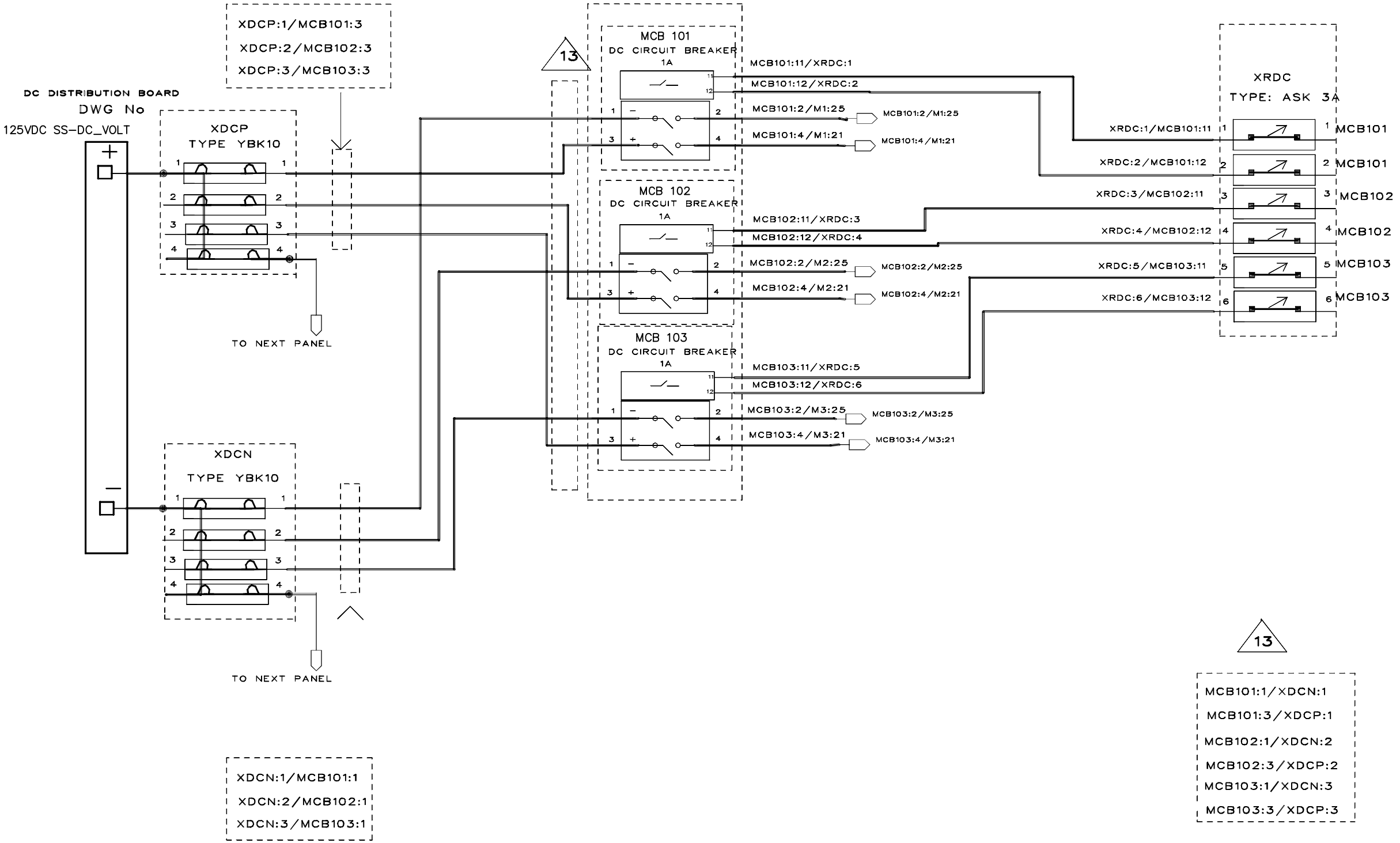

NOTES

LEGEND

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

DC VOLTAGE CONNECTION INSIDE PANEL

S/S 8501

ALMAJMAA **SAUDI ARABIA**

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195356	11 of 11	00

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AEC		
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CD-195356	10 OF 10	00

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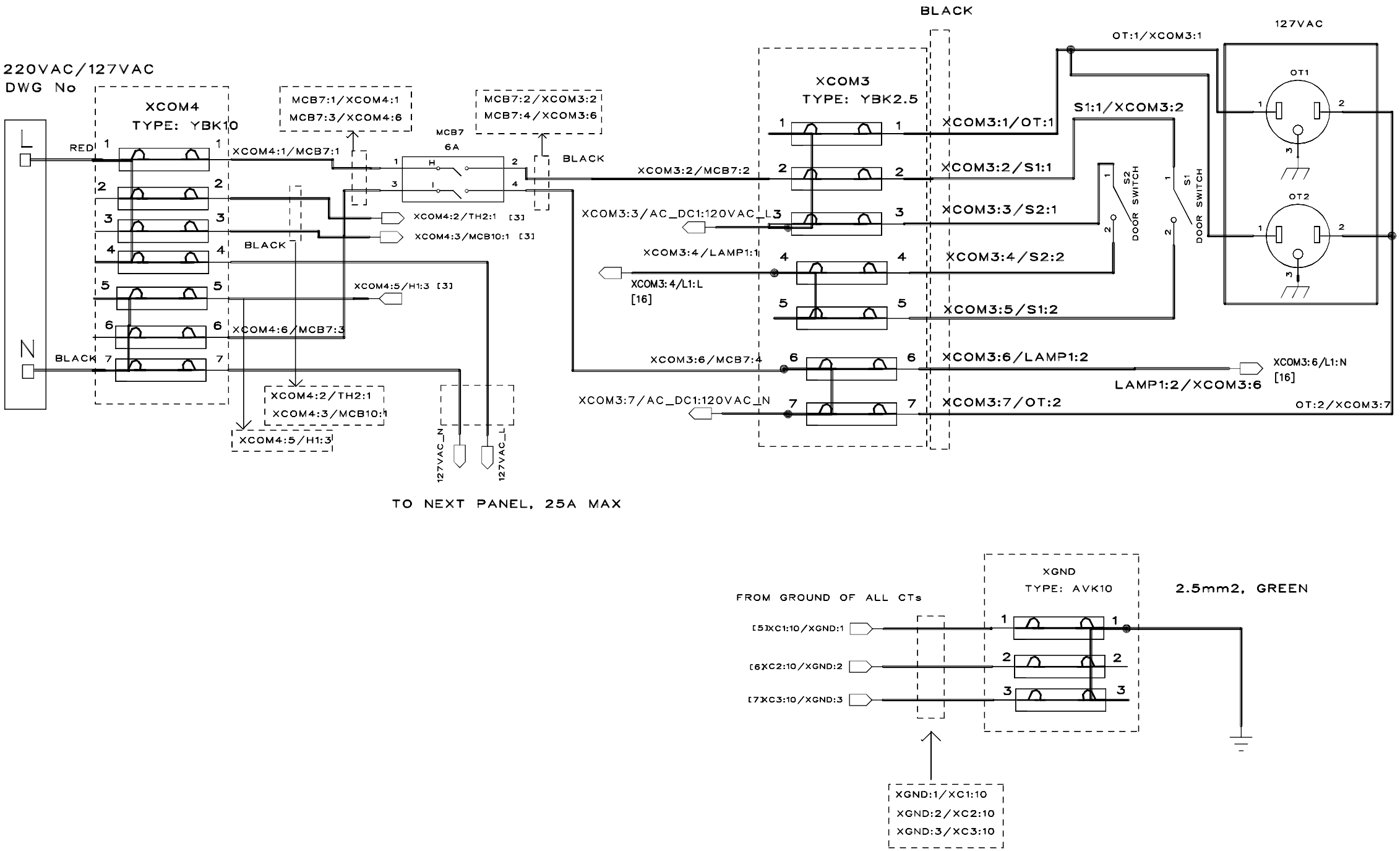
DMB VECTOR

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195356	02 OF 10	00



NOTES

LEGEND

REFERENCE DRAWINGS

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DRAWING CONTROL SHEET	CD-195353

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0	12/01	MRA	DETAIL DESIGN	MRA	AS	

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

127VAC + GROUNDING CONNECTIONS
INSIDE PANEL
S/S 8501

ALMAJMAA SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
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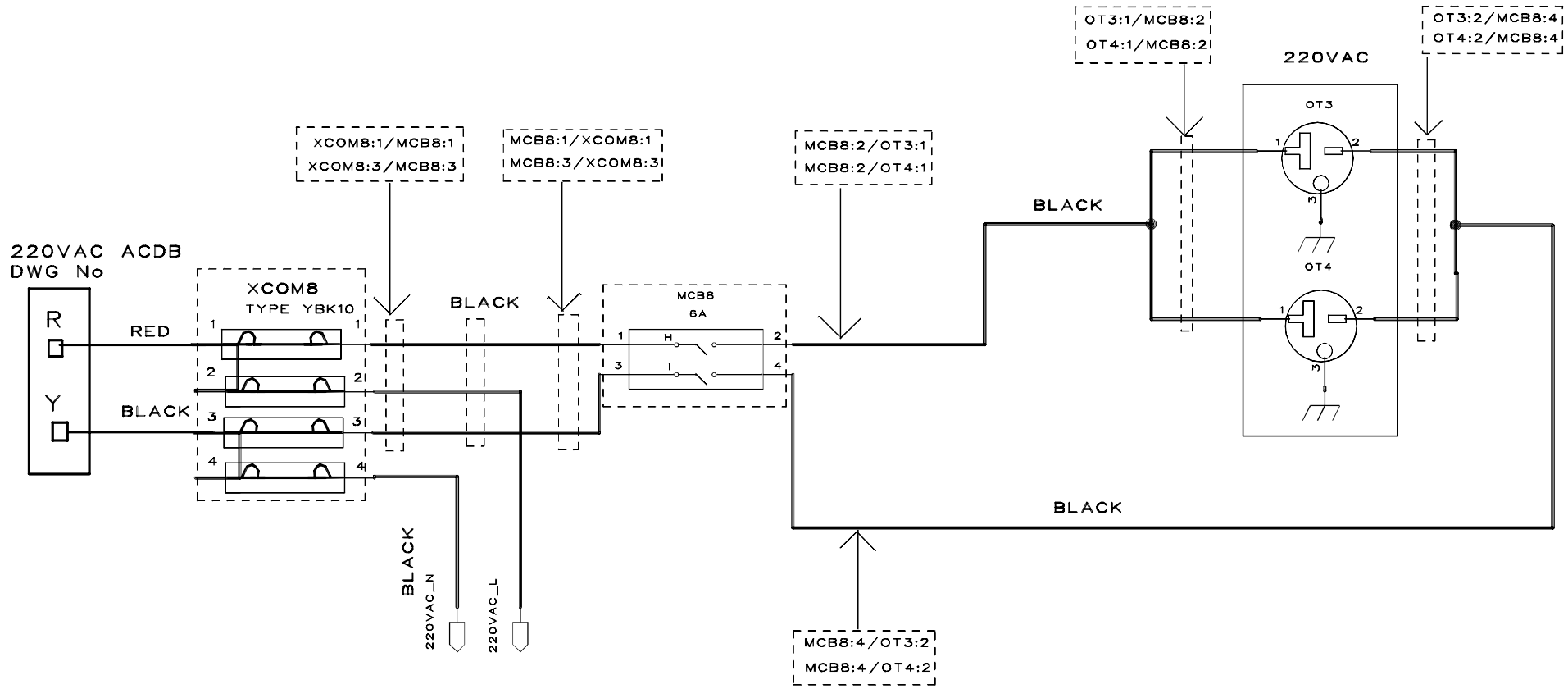

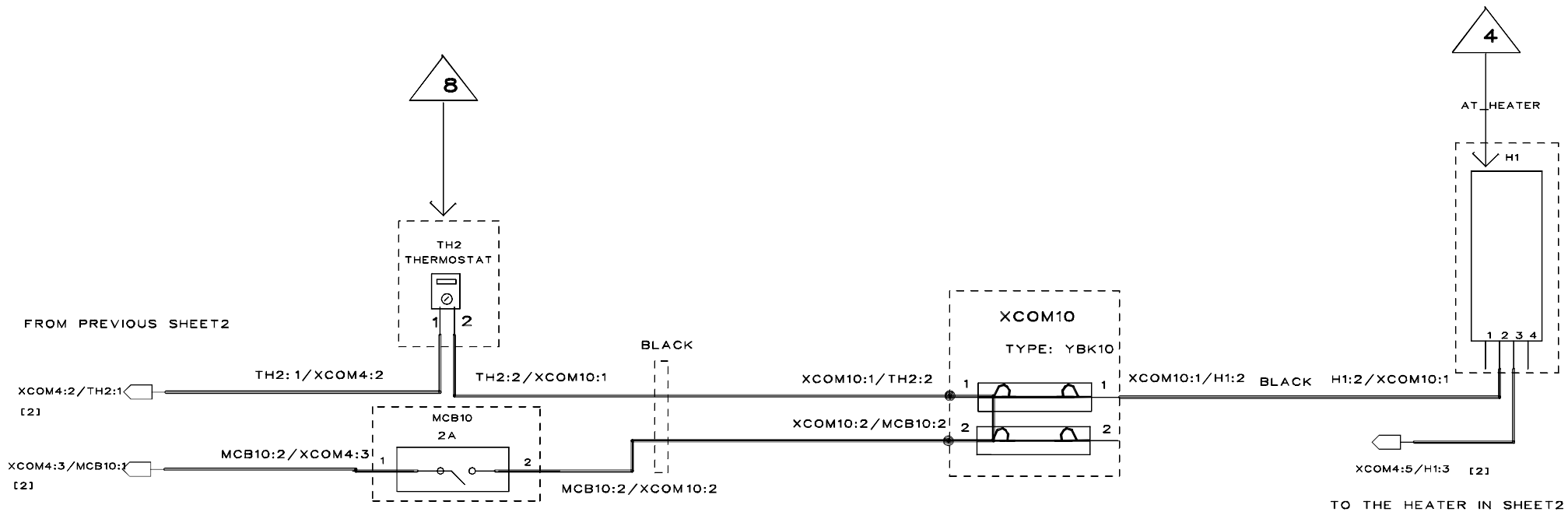

NOTES

LEGEND

AT_HEATER – ANTI CONDENSATION HEATER

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

220VAC CONNECTION INSIDE PANEL
ANTI-CONDENSATION HEATER WITH MANUAL OVERRIDE SW, S/S 8501

ALMAJMAA SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195356	03 of 11	00

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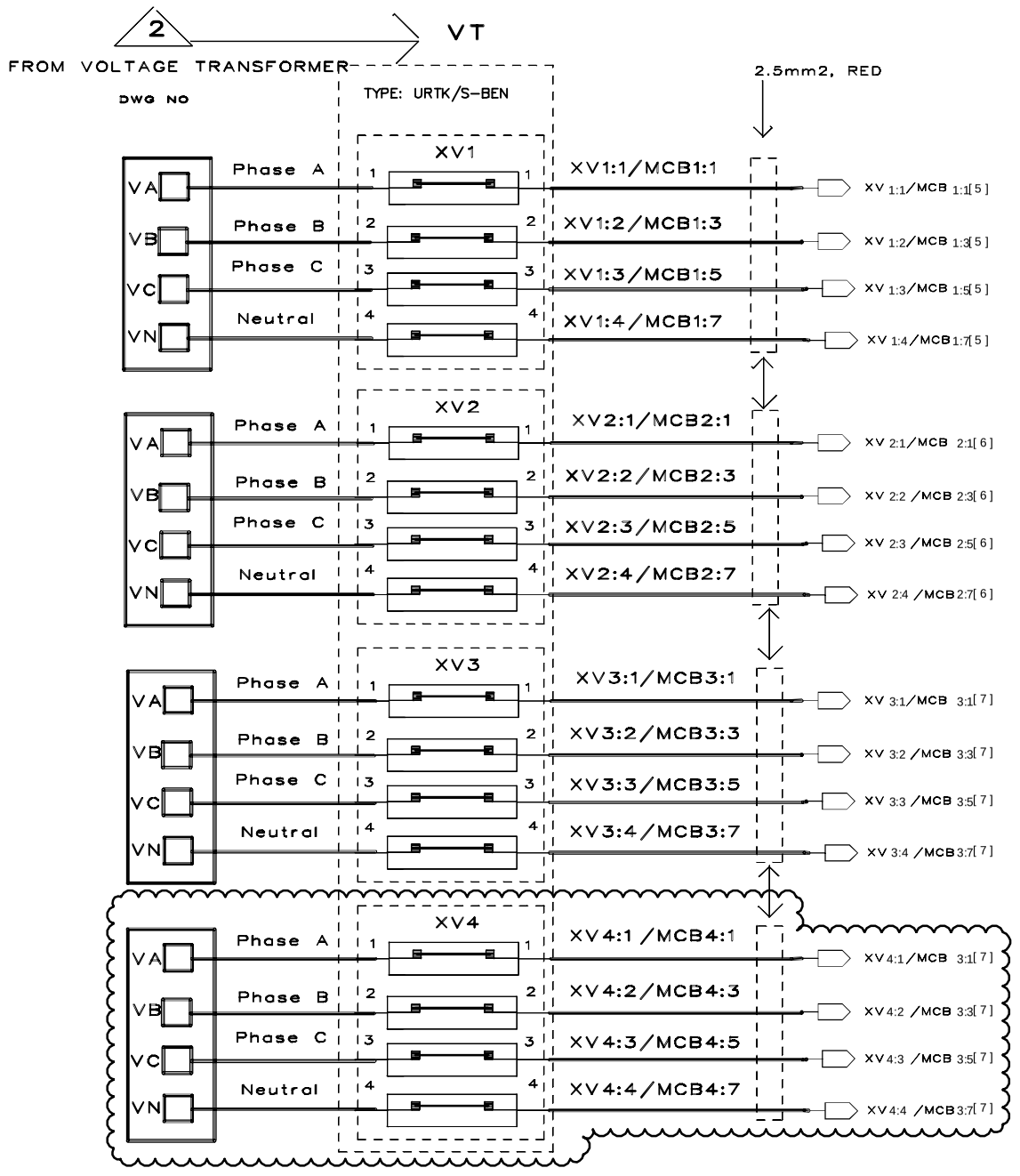

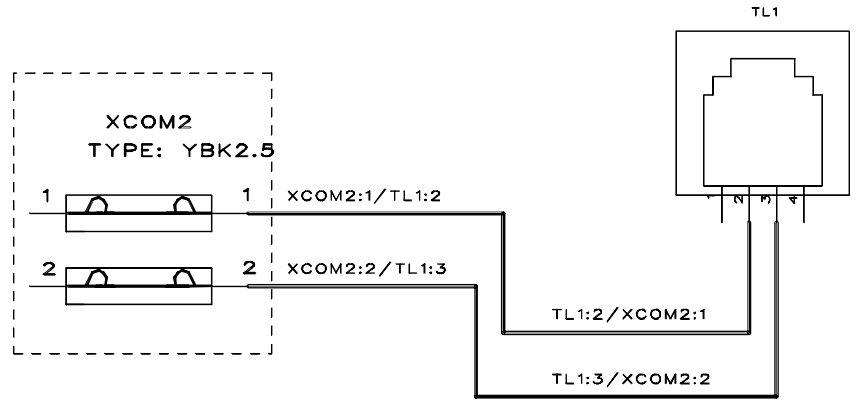

ALL INTERNAL WIRES ON THE SIDE OF TERMINAL BLOCK FARTHEST FROM PANEL BACK DOOR

NOTES

LEGEND

PSTN – PUBLIC SWITCHED TELEPHONE NETWORK

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

VT CONNECTIONS INSIDE PANEL
TELEPHONE LINE CONNECTION INSIDE PANEL
S/S 8501
ALMAJMAA **SAUDI ARABIA**

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195356	04 of 11	00

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DMB VECTOR

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
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From CT/Sub-Station

CONTROL PANEL

DWG No

XC1

TYPE: 0TTA6-T-P/P

IA RED IN

IB YELLOW IN

IC BLUE IN

IA RED IOUT

IB YELLOW IOUT

IC BLUE IOUT

GREEN

XC1:10/XGND:1 [2]

2.5mm2, YELLOW

XC1:2/FT1:10

XC1:4/FT1:14

XC1:6/FT1:18

XC1:7/FT1:8

XC1:8/FT1:12

XC1:9/FT1:16

3

FT1

10	E	9	FT1:10/XC1:2	FT1:9/M1:1	M1:1/FT1:9
8	D	7	FT1:8/XC1:7	FT1:7/M1:3	M1:3/FT1:7
14	G	13	FT1:14/XC1:4	FT1:13/M1:4	M1:4/FT1:13
12	F	11	FT1:12/XC1:8	FT1:11/M1:6	M1:6/FT1:11
18	I	17	FT1:18/XC1:6	FT1:17/M1:7	M1:7/FT1:17
16	H	15	FT1:16/XC1:9	FT1:15/M1:9	M1:9/FT1:15
2	A	1	FT1:2/MCB1:2	FT1:1/M1:2	M1:2/FT1:1
4	B	3	FT1:4/MCB1:4	FT1:3/M1:5	M1:5/FT1:3
6	C	5	FT1:6/MCB1:6	FT1:5/M1:8	M1:8/FT1:5
20	J	19	FT1:20/MCB1:8	FT1:19/M1:11	M1:11/FT1:19

M1

ADDAD-4

3P4W, 57.73-70VAC, 1(6)A

CL0.2S

YELLOW

1 In / 3 Out IA

4 In / 6 Out IB

7 In / 9 Out IC

2 VA, 5 VB, 8 VC, 11 N

RED

31 RS485_A, 32 RS485_B, 30 GND

IN

L/+ 21, N/- 25

MCB101:4/M1:21 [11]

MCB101:2/M1:25 [11]

XCOM5:1/M1:31

XCOM5:3/M1:32

XCOM5:5/M1:30

RL1 28, RL2 26, RL3 24, RL4 22

M1:28/XRL1:1

M1:27/XRL1:2

M1:26/XRL1:4

M1:24/XRL1:5

M1:23/XRL1:6

M1:22/XRL1:8

XRL1

TYPE: ASK 3A

1 VOLTAGE OUT

2 VOLTAGE OUT

3 LOW CURRENT

4 LOW CURRENT

5 POWER FACTOR

6 POWER FACTOR

7 FREQUENCY

8 FREQUENCY

2.5mm2, BLUE

XRL1:1/M1:28

XRL1:2/M1:27

XRL1:3/XRL1:2

XRL1:4/M1:26

XRL1:5/M1:24

XRL1:6/M1:23

XRL1:7/XRL1:6

XRL1:8/M1:22

RS485 CABLE

BLUE XCOM5:5/M1:30 [9]

ORANGE XCOM5:3/M1:32 [9]

WHITE/ORANGE XCOM5:1/M1:31 [9]

12

FROM VT TO MCB

MCB1

3 PHASE 4 POLE

1A

[4] XV1:1/MCB1:1

[4] XV1:2/MCB1:3

[4] XV1:3/MCB1:5

[4] XV1:4/MCB1:7

2.5mm2, RED

MCB1:2/FT1:2

MCB1:4/FT1:4

MCB1:6/FT1:6

MCB1:8/FT1:20

MCB1:1/XV1:1

MCB1:3/XV1:2

MCB1:5/XV1:3

MCB1:7/XV1:4

NOTES

LEGEND

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0	12/01	MRA	DETAIL DESIGN	MRA	AS	

الشركة السعودية للكهرباء

Saudi Electricity Company

DRAWN BY MRA CHECKED BY AS SCALE: NONE

DATE STARTED _____ DATE COMPLETED _____

OPR'G. DEPT. _____ ENG. DEPT. _____

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APPROVAL/CERTIFICATION INFORMATION

DOC NO. E-123456 REV NO. 00

REVENUE METER CONNECTION INSIDE PANEL

S/S 8501

ALMAJMAA SAUDI ARABIA

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195356	05 OF 10	00

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195356	05 of 11	00

SEC CAD-A 12004/031

CMB VECTOR

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شركة ابه بي للمقاولات المحدودة
ABB Contracting Co., Ltd.
P.O. Box 91926 Riyadh 11643
Tel: 2653030
C.R.1010028640

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195356	06 OF 10	00

From CT/Sub-Station
CONTROL PANEL
DWG No

XC2
TYPE: 0TTA6-T-P/P

IA RED IN — XC2:2/FT2:10
IB YELLOW IN — XC2:4/FT2:14
IC BLUE IN — XC2:6/FT2:18
IA RED IOUT — XC2:7/FT2:8
IB YELLOW IOUT — XC2:8/FT2:12
IC BLUE IOUT — XC2:9/FT2:16
GREEN — XC2:10/XGND:2 [2]

2.5mm2, YELLOW

3

FT2

10	E	9	
8	D	7	
14	G	13	
12	F	11	
18	I	17	
16	H	15	
2	A	1	
4	B	3	
6	C	5	
20	J	19	

FT2:10/XC2:2 — FT2:9/M2:1
FT2:8/XC2:7 — FT2:7/M2:3
FT2:14/XC2:4 — FT2:13/M2:4
FT2:12/XC2:8 — FT2:11/M2:6
FT2:18/XC2:6 — FT2:17/M2:7
FT2:16/XC2:9 — FT2:15/M2:9
FT2:2/MCB2:2 — FT2:1/M2:2
FT2:4/MCB2:4 — FT2:3/M2:5
FT2:6/MCB2:6 — FT2:5/M2:8
FT2:20/MCB2:8 — FT2:19/M2:11

M2:1/FT2:9
M2:3/FT2:7
M2:4/FT2:13
M2:6/FT2:11
M2:7/FT2:17
M2:9/FT2:15
M2:2/FT2:1
M2:5/FT2:3
M2:8/FT2:5
M2:11/FT2:19

M2
ADDAD-4
3P4W, 127–220VAC, 5(6)A
CL0.2S

1 In / 3 Out IA
4 In / 6 Out IB
7 In / 9 Out IC
2 VA
5 VB
8 VC
11 N
31 RS485_A
32 RS485_B
30 GND
IN
L/+ 21
N/− 25

YELLOW
RED

MCB102:4/M2:21 [11]
MCB102:2/M2:25 [11]

XCOM5:2/M2:31
XCOM5:4/M2:32
XCOM5:6/M2:30

RL1 28
RL2 27
RL3 26
RL4 24 23 22

M2:28/XRL2:1
M2:27/XRL2:2
M2:26/XRL2:4
M2:24/XRL2:5
M2:23/XRL2:6
M2:22/XRL2:8

XRL2
TYPE: ASK 3A

1 VOLTAGE OUT
2 VOLTAGE OUT
3 LOW CURRENT
4 LOW CURRENT
5 POWER FACTOR
6 POWER FACTOR
7 FREQUENCY
8 FREQUENCY

2.5mm2, BLUE

XRL2:1/M2:28
XRL2:2/M2:27
XRL2:3/XRL2:2
XRL2:4/M2:26
XRL2:5/M2:24
XRL2:6/M2:23
XRL2:7/XRL2:6
XRL2:8/M2:22

RS485 CABLE
BLUE — XCOM5:6/M2:30 [9]
ORANGE — XCOM5:4/M2:32 [9]
WHITE/ORANGE — XCOM5:2/M2:31 [9]

12

FROM VT TO MCB

MCB2
3 PHASE 4 POLE
1A

2.5mm2, RED

[4] XV2:1/MCB2:1 — MCB2:2/FT2:2
[4] XV2:2/MCB2:3 — MCB2:4/FT2:4
[4] XV2:3/MCB2:5 — MCB2:6/FT2:6
[4] XV2:4/MCB2:7 — MCB2:8/FT2:20

MCB2:1/XV2:1
MCB2:3/XV2:2
MCB2:5/XV2:3
MCB2:7/XV2:4

NOTES

LEGEND

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0	12/01	MRA	DETAIL DESIGN	MRA	AS	

AS-BUILT BY _____ DATE _____

الشركة السعودية للكهرباء
Saudi Electricity Company

DRAWN BY MRA CHECKED BY AS SCALE: NONE
DATE STARTED _____ DATE COMPLETED _____
OPR'G. DEPT. _____ ENG. DEPT. _____

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

REVENUE METER CONNECTION INSIDE PANEL

S/S 8501
ALMAJMAA SAUDI ARABIA

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195356	06 OF 10	00

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195356	06 of 11	00

SEC CAD-A 12004/031
DMS | VECTOR

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JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195356	07 OF 10	00

From CT/Sub-Station
CONTROL PANEL
DWG No

XC3
TYPE: OTTA6-T-P/P

IA RED IN
IB YELLOW IN
IC BLUE IN
IA RED IOUT
IB YELLOW IOUT
IC BLUE IOUT
GREEN
XC3:10/XGND:3 [2]

2.5mm2, YELLOW

XC3:2/FT3:10
XC3:4/FT3:14
XC3:6/FT3:18
XC3:7/FT3:8
XC3:8/FT3:12
XC3:9/FT3:16

3

FT3

FT3:10/XC3:2
FT3:8/XC3:7
FT3:14/XC3:4
FT3:12/XC3:8
FT3:18/XC3:6
FT3:16/XC3:9
FT3:2/MCB3:2
FT3:4/MCB3:4
FT3:6/MCB3:6
FT3:20/MCB3:8

FT3:9/M3:1
FT3:7/M3:3
FT3:13/M3:4
FT3:11/M3:6
FT3:17/M3:7
FT3:15/M3:9
FT3:1/M3:2
FT3:3/M3:5
FT3:5/M3:8
FT3:19/M3:11

M3:1/FT3:9
M3:3/FT3:7
M3:4/FT3:13
M3:6/FT3:11
M3:7/FT3:17
M3:9/FT3:15
M3:2/FT3:1
M3:5/FT3:3
M3:8/FT3:5
M3:11/FT3:19

M3
ADDAD-4
3P4W, 127-220VAC, 5(6)A
CL0.2S

YELLOW
RED
IN
L/+ N/-

31 RS485_A
32 RS485_B
30 GND

MCB103:4/M3:21 [11]
MCB103:2/M3:25 [11]

XCOM6:1/M3:31
XCOM6:3/M3:32
XCOM6:5/M3:30

RS485 CABLE
BLUE XCOM6:5/M3:30 [9]
ORANGE XCOM6:3/M3:32 [9]
WHITE/ORANGE XCOM6:1/M3:31 [9]

M3:28/XRL3:1
M3:27/XRL3:2
M3:26/XRL3:4
M3:24/XRL3:5
M3:23/XRL3:6
M3:22/XRL3:8

XRL3
TYPE: ASK 3A

VOLTAGE OUT
VOLTAGE OUT
LOW CURRENT
LOW CURRENT
POWER FACTOR
POWER FACTOR
FREQUENCY
FREQUENCY

2.5mm2, BLUE

XRL3:1/M3:28
XRL3:2/M3:27
XRL3:3/XRL3:2
XRL3:4/M3:26
XRL3:5/M3:24
XRL3:6/M3:23
XRL3:7/XRL3:6
XRL3:8/M3:22

12

FROM VT TO MCB

MCB3
3 PHASE 4 POLE
1A

2.5mm2, RED

[4] XV3:1/MCB3:1
[4] XV3:2/MCB3:3
[4] XV3:3/MCB3:5
[4] XV3:4/MCB3:7

MCB3:2/FT3:2
MCB3:4/FT3:4
MCB3:6/FT3:6
MCB3:8/FT3:20

MCB3:1/XV3:1
MCB3:3/XV3:2
MCB3:5/XV3:3
MCB3:7/XV3:4

NOTES

LEGEND

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0	12/01	MRA	DETAIL DESIGN	MRA	AS	

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Saudi Electricity Company

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DATE STARTED _____ DATE COMPLETED _____
OPR'G. DEPT. _____ ENG. DEPT. _____

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

REVENUE METER CONNECTION INSIDE PANEL

S/S 8501
ALMAJMAA SAUDI ARABIA

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195356	07 OF 10	00

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195356	07 of 11	00

SEC CAD-A 12004/031
DMS VECTOR

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JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195356	05 OF 10	00

From CT/Sub-Station
CONTROL PANEL
DWG No

XC4
TYPE: 0TTA6-T-P/P

IA RED IN
IB YELLOW IN
IC BLUE IN
IA RED IOUT
IB YELLOW IOUT
IC BLUE IOUT
GREEN
XC /4:10XGND4: [2]

XC /4:2FT 4:10
XC /4:4FT 4:14
XC /4:6FT 4:18
XC /4:7FT 4:8
XC /4:8FT 4:12
XC /4:9FT 4:16

2.5mm2, YELLOW

3

FT4

FT /4:10XC 4:2
FT /4:8XC 4:7
FT /4:14XC 4:4
FT /4:12XC 4:8
FT /4:18XC 4:6
FT /4:16XC 4:9
FT /4:2MCB 4:2
FT /4:4MCB 4:4
FT /4:6MCB 4:6
FT /4:20MCB 4:8
FT /4:9M 4:1
FT /4:7M 4:3
FT /4:13M 4:4
FT /4:11M 4:6
FT /4:17M 4:7
FT /4:15M 4:9
FT /4:1M 4:2
FT /4:3M 4:5
FT /4:5M 4:8
FT /4:19M 4:11

M /4:1FT 4:9
M /4:3FT 4:7
M /4:4FT 4:13
M /4:6FT 4:11
M /4:7FT 4:17
M /4:9FT 4:15
M /4:2FT 4:1
M /4:5FT 4:3
M /4:8FT 4:5
M /4:11FT 4:19

YELLOW
RED

M4
ADDAD-4
3P4W, 57.73-70VAC, 1(6)A
CL0.2S

1 In / 3 Out IA
4 In / 6 Out IB
7 In / 9 Out IC
2 VA
5 VB
8 VC
11 N
31 RS485_A
32 RS485_B
30 GND
IN
L/+ 21
N/- 25
RL1 28
RL2 27
RL3 26
RL4 24 23 22

MCB /101:4M4:21 [11]
MCB /101:2M4:25 [11]

M /4:28XRL 4:1
M /4:27XRL 4:2
M /4:26XRL 4:4
M /4:24XRL 4:5
M /4:23XRL 4:6
M /4:22XRL 4:8

XRL4
TYPE: ASK 3A

1 VOLTAGE OUT
2 VOLTAGE OUT
3 LOW CURRENT
4 LOW CURRENT
5 POWER FACTOR
6 POWER FACTOR
7 FREQUENCY
8 FREQUENCY

2.5mm2, BLUE

XRL /4:1M 4:28
XRL /4:2M 4:27
XRL /4:3XRL 4:2
XRL /4:4M 4:26
XRL /4:5M 4:24
XRL /4:6M 4:23
XRL /4:7XRL 4:6
XRL /4:8M 4:22

RS485 CABLE
BLUE
ORANGE
WHITE/ORANGE
XCOM /6:6M4:30 [9]
XCOM /6:4M4:32 [9]
XCOM /6:2M4:31 [9]

12

MCB1
3 PHASE 4 POLE
1A

FROM VT TO MCB
2.5mm2, RED

[4] XV /4:1MCB 4:1
[4] XV /4:2MCB 4:3
[4] XV /4:3MCB 4:5
[4] XV /4:4MCB 4:7

MCB /4:2FT 4:2
MCB /4:4FT 4:4
MCB /4:6FT 4:6
MCB /4:8FT 4:20

MCB /4:1XV 4:1
MCB /4:3XV 4:2
MCB /4:5XV 4:3
MCB /4:7XV 4:4

NOTES

LEGEND

REFERENCE DRAWINGS

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DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0	12/01	MRA	DETAIL DESIGN	MRA	AS	

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Saudi Electricity Company

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OPR'G. DEPT. _____ ENG. DEPT. _____

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

REVENUE METER CONNECTION INSIDE PANEL

S/S 8501
ALMAJMAA SAUDI ARABIA

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195356	05 OF 10	00

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195356	08 of 11	00

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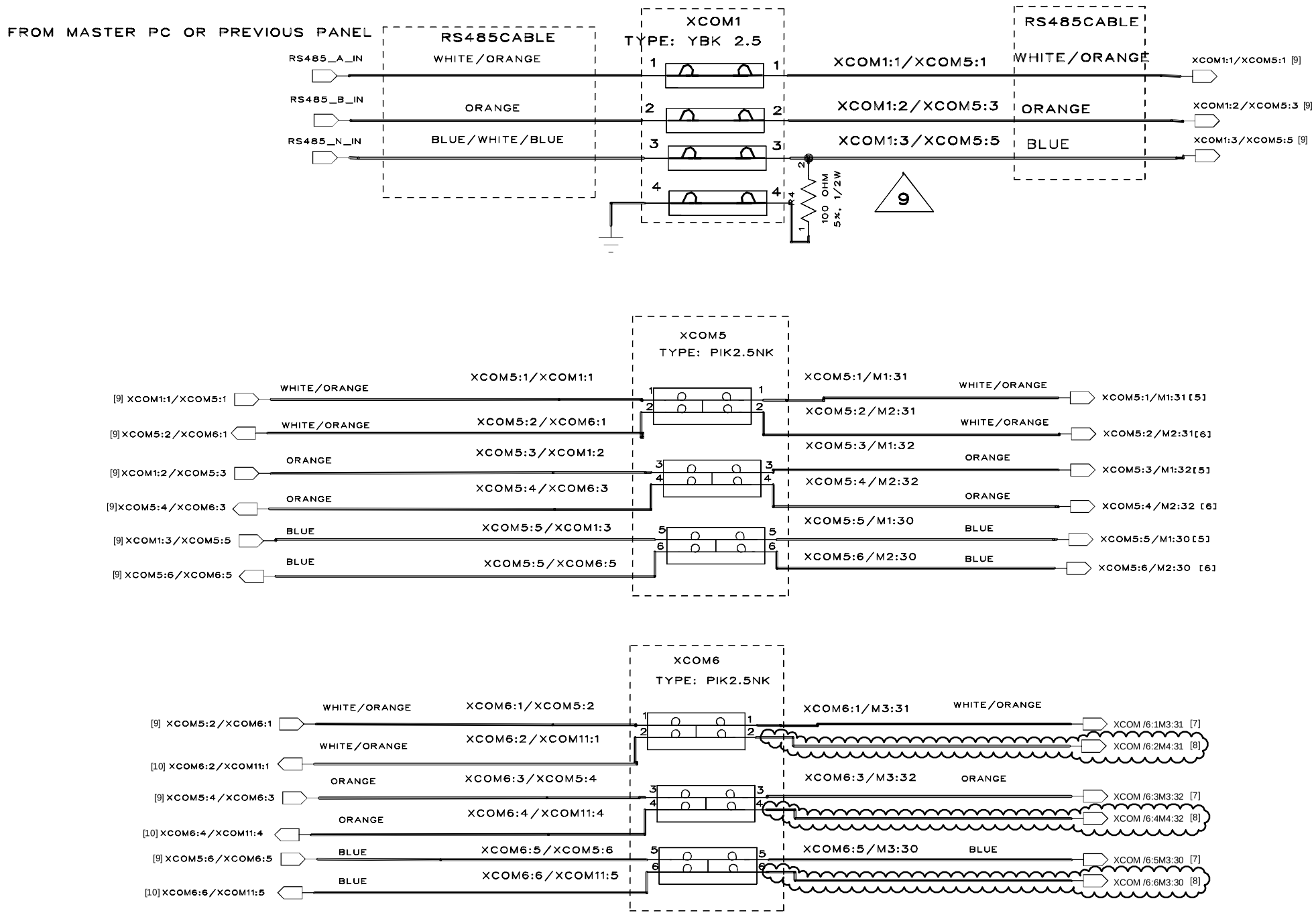
JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195356	08 OF 10	00



NOTES

LEGEND

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
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Saudi Electricity Company

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

COMMUNICATION CONNECTIONS INSIDE PANEL

S/S 8501

ALMAJMAA **SAUDI ARABIA**

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195356	09 of 11	00

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195356	08 OF 10	00

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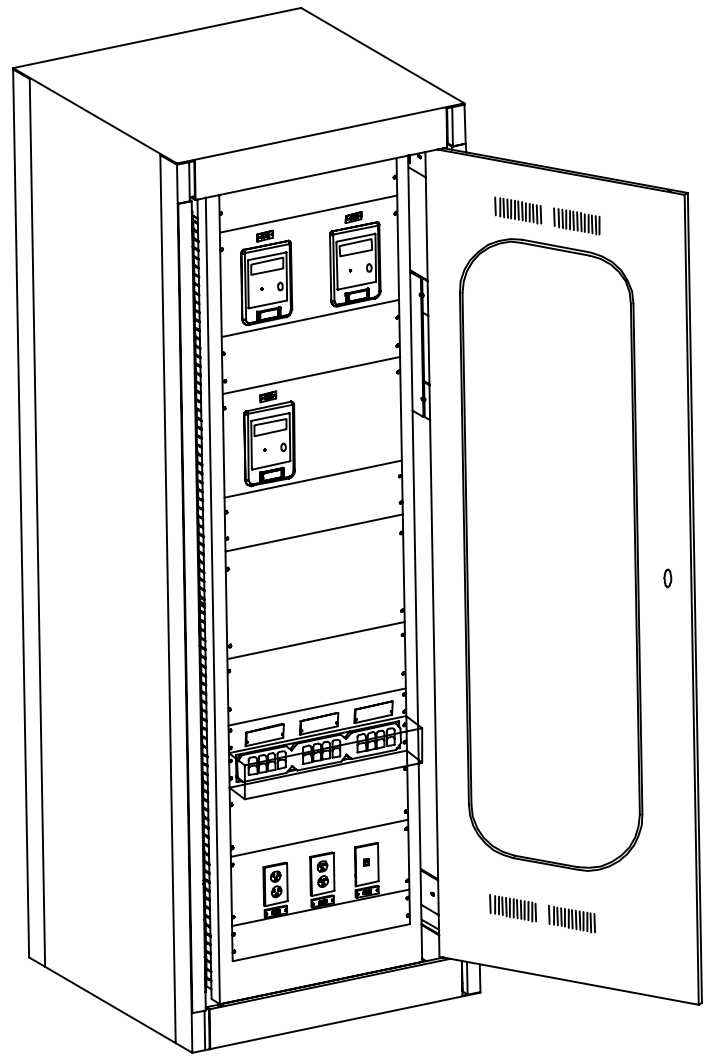
JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
	A			01 OF 03	00

PANEL SPECIFICATIONS :

1. THE PANEL IS MADE OF 2MM THICKNESS STEEL SHEET INCLUDING THE DOORS.
2. PANEL'S BOTTOM COVERED BY THREE PLATES EACH FABRICATED FROM 3MM THICKNESS STEEL SHEET.
3. THE PANEL IS POWDER COATED BY RAL 7038 FROM OUTSIDE AND RAL 9003 FROM INSIDE.
4. THE PANEL IS FABRICATED ACCORDING TO CLAUSE NO. 4.1 OF 31-TMSS-01.



DESCRIPTION
METERING PANEL, 3 METERS, 1M 70VAC & 2M 220VAC, 3P4W ADDAD WITHOUT CHANGEOVER CONTACTS

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.
2. PANEL IS CONSTRUCTED ACCORDING TO 31-TMSS-01.
3. THE PANEL IS POWDER COATED BY RAL 7038 FROM OUTSIDE AND RAL 9003 FROM INSIDE.

LEGEND

GA : GENERAL ASSEMBLY
LA : LIST OF APPARATUS
M : REVENUE METER

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0		AM	DETAIL DESIGN	AM	AS	

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Saudi Electricity Company

DRAWN BY_____ CHECKED BY _____ SCALE: NONE
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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

GA AND LA DRAWING
METERING PANEL, 3 METERS, 3P4W
1M 70VAC AND 2M 220VAC WITHOUT RELAY
SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
	A			01 of 03	00

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
	01 OF 03	00

SEC CAD-A 12004/031
DMB | VECTOR

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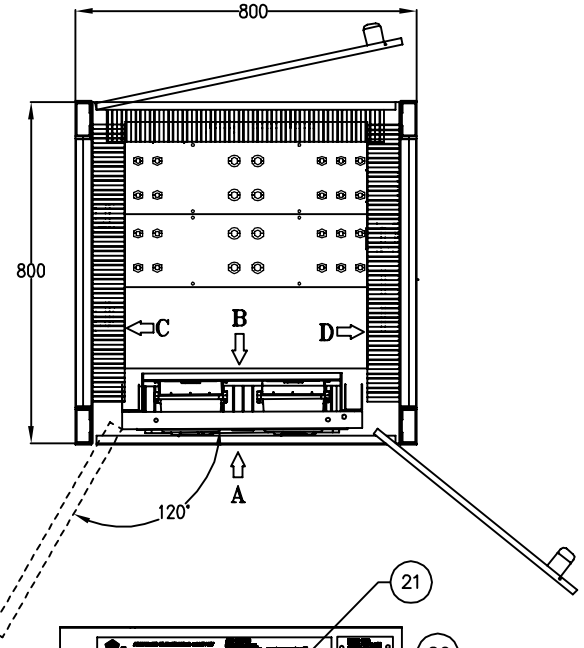
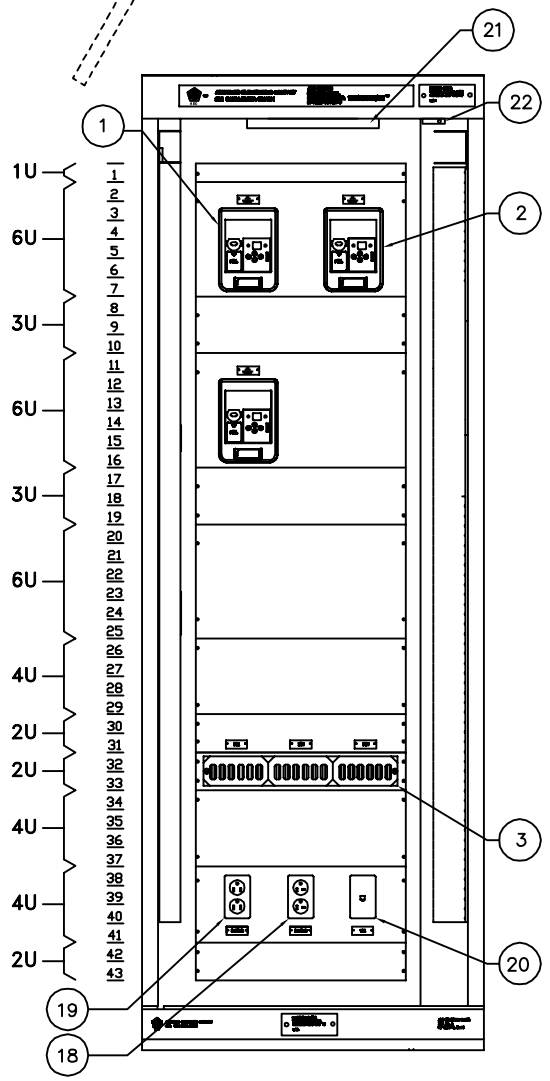
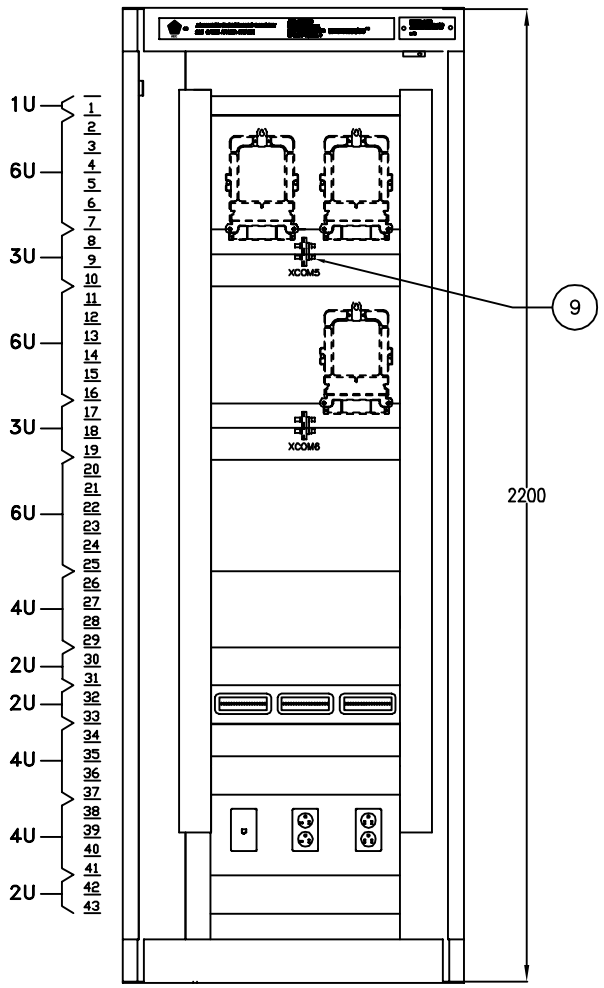
JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
	-			02 OF 03	00



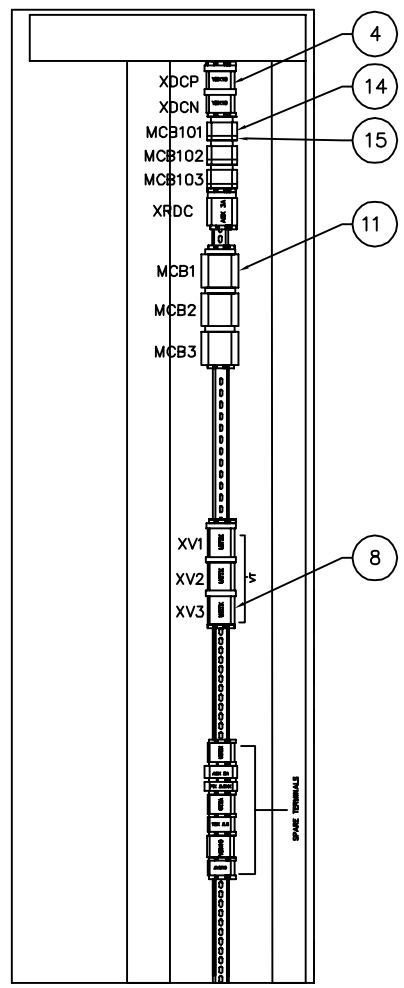


FRONT VIEW OPEN DOOR

PLAN–A

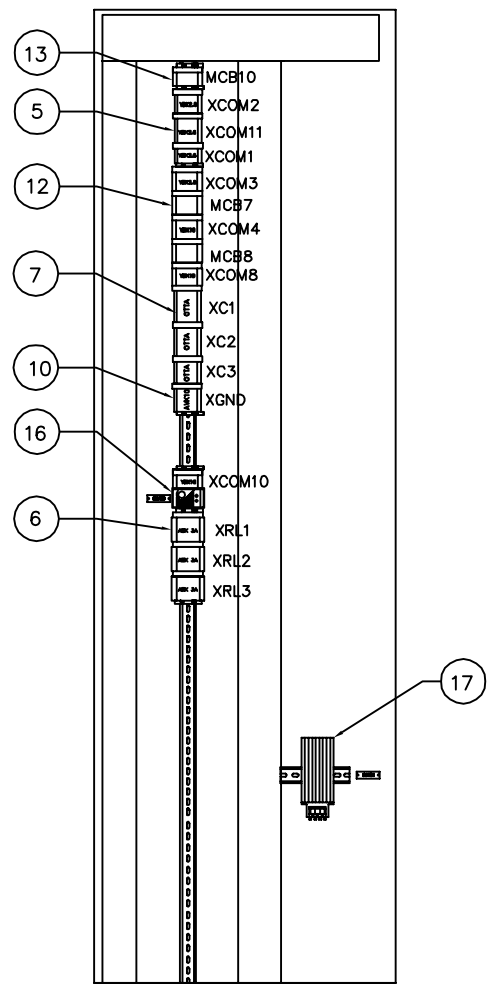


PLAN–B



PANEL INTERIOR BASE LEVEL

PLAN–C



PANEL INTERIOR BASE LEVEL

PLAN–D

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.
2. PANEL IS CONSTRUCTED ACCORDING TO 31-TMSS-01.

LEGEND

GA : GENERAL ASSEMBLY

LA : LIST OF APPARATUS

M : REVENUE METER

ABB Contracting Co., Ltd.

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
			DETAIL DESIGN			

الشركة السعودية للكهرباء

Saudi Electricity Company

DRAWN BY _____ CHECKED BY _____ SCALE: NONE

DATE STARTED _____ DATE COMPLETED _____

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

GA AND LA DRAWING

METERING PANEL, 3 METERS, 3P4W

1M 70VAC AND 2M 220VAC WITHOUT RELAY

SAUDI ARABIA

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
	02 OF 03	00

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
	A				00

SEC CAD-A 12004/031

DMS | VECTOR

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JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
	A			03 OF 03	00

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.
2. PANEL IS CONSTRUCTED ACCORDING TO 31-TMSS-01.

LEGEND

GA : GENERAL ASSEMBLY

LA : LIST OF APPARATUS

M : REVENUE METER

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0		AM	DETAIL DESIGN	AM	AS	

الشركة السعودية للكهرباء

Saudi Electricity Company

DRAWN BY _____ CHECKED BY _____ SCALE: NONE

DATE STARTED _____ DATE COMPLETED _____

OPR'G. DEPT. _____ ENG. DEPT. _____

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APPROVAL/CERTIFICATION INFORMATION

DOC NO. E-123456 REV NO. 00

GA AND LA DRAWING

METERING PANEL, 3 METERS, 3P4W

1M 70VAC AND 2M 220VAC WITHOUT RELAY

SAUDI ARABIA

INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
A			03 OF 03	00

SEC CAD-A 12004/031

DMB | VECTOR

QTY	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL / SPECIFICATION	ITEM
2		Z15G1307 OR AZ7310	LIMIT SWITCH	HIGHLY LIMIT SWITCH 15A 125/220 VAC LIMIT SWITCH WITH 10A 250V AC MAX	22
1		1X20 MODEL 2004 ELECTRONE OR 60620	LAMP 127VAC OR 220VAC	ALRAED, FLUORESCENT LAMP, 20W, 60HZ. 127VAC OR 220VAC PANEL LAMP -230VAC, 50Hz	21
1		TPTE1-I	TELEPHONE JACK	SANA, RIYADH, RJ11, TELEPHONE JACK WALL PLATE	20
1		3232-I	DUPLEX RECEPTACLES 110VAC	SANA, RIYADH, 2POLE, 3WIRE, GROUNDING DUPLEX RECEPTACLES, 15A 127V, IVORY.	19
1		5822-I	DUPLEX RECEPTACLES 220VAC	SANA, RIYADH, 2POLE, 3WIRE, GROUNDING DUPLEX RECEPTACLES, 20A 220V, IVORY.	18
1		06020.0-00	ANTI CONDENSATION HEATER	STEGO, ANTI CONDENSATION HEATER CS 060 SERIES, 150 WATT, 120-240 VAC	17
1		01140.0-00	THERMOSTAT KTO 011, 0-60°C	STEGO, THERMOSTAT KTO 011, 0-60°C NORMALLY CLOSED AND CLIP FOR 35MM DIN RAIL	16
3		26924	AUXILIARY CONTACT, TYPE "OF"	SCHNEIDER,	15
3		MGN61521	DC MCB, 2P 1A	SCHNEIDER, C32H, U CURVE, 2 POLE DC MCB, 1A	14
1		25640	AC MCB, 1P1P 2A	SCHNEIDER, C60H, C CURVE, SINGLE PHASE 1 POLE, 2A	13
2		25855	AC MCB, 1P2P 6A	SCHNEIDER, C60H, B CURVE, SINGLE PHASE 2 POLE, 6A	12
3		25007	AC MCB, 3P4P 1A	SCHNEIDER, C60H, C CURVE, THREE PHASE 4 POLE, 1A	11
4		304150	FEED THROUGH TERMINAL AVK10	KLEMSAN, TYPE AVK10 FEED THROUGH TERMINAL WITH 100 TERMINAL/PACK, GRAY	10
7		317129	DOUBLE DECK TERMINAL PIK2.5NK	KLEMSAN, TYPE PIK2.5NK DOUBLE DECK TERMINALS WITH 20 TERMINALS/PACK, GRAY	9
14		0309086	DISCONNECT TYPE TERMINAL BLOCK URTK/S-BEN	PHOENIX, TYPE URTK/S-BEN DISCONNECT TYPE, 6MM2 , 50 TERMINALS PER PACK, GRAY	8
33		0790462	DISCONNECT TYPE TERMINAL BLOCK OTTA6-T OTTA 6-T-P/P	PHOENIX, TYPE OTTA 6-T-P/P DISCONNECT TYPE, 6MM2 , 50 TERMINALS PER PACK, GRAY	7
34		353109	DISCONNECT TERMINALS ASK3A	KLEMSAN, TYPE ASK3A DISCONNECT TERMINALS WITH DOUBLE TEST SOCKET, GRAY	6
20		306229	SPRING CLAMP TERMINAL, YBK2.5	KLEMSAN, TYPE YBK2.5 SPRING CLAMP TERMINAL WITH 100 TERMINAL/PACK, GRAY	5
22		306259	SPRING CLAMP TERMINAL, YBK10	KLEMSAN, TYPE YBK10 SPRING CLAMP TERMINAL WITH 20 TERMINAL/PACK, GRAY	4
1		FR2H014014014N	FT-SWITCH KIT, 3	ABB RIYADH, KIT OF 3 FT-SWITCH, WITH SCREWS, COVER AND MOUNTING PLATE 2U	3
2	SE455	900-003544	ADDAD-4 DLMS CL0.2S, CT 3P4W, 5(6)A 220V	AEC, RIYADH	2
1	SE455	900-003524	ADDAD-4 CL0.2S , TOP ASSEMBLY, RS485 1(6)A	AEC, RIYADH	1

PARTS LIST

JOB ORDER NO.

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
	03 OF 03	00

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JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195358	01 OF 10	00

NOTES UNLESS OTHERWISE SPECIFIED:

1. THE TERMINATION RESISTOR MUST BE PRESENT IN EVERY PANEL BUT IT MUST BE CONNECTED TO XCOM1 BY SHORTING XCOM1:1 & XCOM1:2 , XCOM1:3 & XCOM1:4
2. VT IS THE VOLTAGE TRANSFORMER
3. CTs & VTs ARE TO BE CONNECTED TO THE METERS VIA FT-SWITCH
4. H1 IS ANTI-CONDENSATION HEATER TO BE CONNECTED TO 127/220VAC
5. USE GROUP MARKER FOR GROUP MARKING
6. USE FERRULING FOR CABLE MARKING
7. FOR EXTERNAL WIRING OF THE PANELS REFER CABLE SCHEDULING OF THE SUBSTATIONS & FOR TESTING FOLLOW THE TEST DOCUMENTS
8. NEUTRAL SHOULD NOT BE CONNECTED TO TH1 THERMOSTAT
9. CONNECT RESISTOR R4 BETWEEN TERMINAL 5 & 6 OF XCOM1 & GROUND TERMINAL 6 OF XCOM1 USING YELLOW GREEN WIRE
10. ALL THE TERMINAL BLOCKS HAVING EXTERNAL WIRING CONNECTIONS LIKE VT.CT.AC/DC TERMINAL BLOCKS SHOULD HAVE WIRE CONNECTION ON THE SIDE OF TERMINAL BLOCK NOT CLOSE TO PANEL ACCESS DOOR
11. ALL THE FERRULES SHOULD BE OUTSIDE RACEWAY, NEAR CONNECTOR & EASILY READABLE WIHTOUT TURNING OR MOVING WIRES.
12. FOR CONNECTIONS/FERRULING PLEASE FOLLOW THE TABLE ON SHEET 10
13. FOR CONNECTIONS/FERRULING PLEASE FOLLOW THE TABLE ON SHEET 10
14. WHEN CONNECTING ELECTRICAL WIRES FOR THE RELAYS MAKE SURE TO CONNECT ON THE SIDE MARKED 'A' FOR ALL PIN NUMBERS
15. TERMINAL 10 IN XC1 TO XC4 TO BE CLOSED IF CT CIRCUIT IS NOT EARTHED ANY OTHER PLACE

NOTES

1. EXISTING PANEL NOS & EXISTING DRAWING NOS TO BE VERIFIED AT SITE.

LEGEND

ABB Contracting Co., Ltd.

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0	12/01	MRA	DETAIL DESIGN	MRA	AS	

الشركة السعودية للكهرباء
Saudi Electricity Company

DRAWN BY MRA CHECKED BY AS SCALE: NONE
DATE STARTED _____ DATE COMPLETED _____
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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

SCHEMATIC DIAGRAM, AUTOMATIC METER READING, DCU PANEL WITH 1 PQ AND 1 REV. METER W/CB/MEB501S, S/S 8501

ALMAJMAA SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195358	01 of 10	00

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195358	01 OF 10	00

SEC CAD-A 12004/031
DMB VECTOR

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JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
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12

SCSI:DO7.48/XRL3:1
SCSI:DO7.96/XRL3:2
SCSI:DO7.47/XRL3:3
SCSI:DO7.95/XRL3:4
SCSI:DO7.46/XRL3:5
SCSI:DO7.94/XRL3:6
SCSI:DO7.45/XRL3:7
SCSI:DO7.93/XRL3:8
SCSI:DO7.44/XRL3:9
SCSI:DO7.92/XRL3:10
SCSI:DO7.43/XRL3:11
SCSI:DO7.91/XRL3:12
SCSI:DO7.42/XRL3:13
SCSI:DO7.90/XRL3:14
SCSI:DO7.41/XRL3:15
SCSI:DO7.89/XRL3:16

13

XRL3:1/SCSI:DO7.48
XRL3:2/SCSI:DO7.96
XRL3:3/SCSI:DO7.47
XRL3:4/SCSI:DO7.95
XRL3:5/SCSI:DO7.46
XRL3:6/SCSI:DO7.94
XRL3:7/SCSI:DO7.45
XRL3:8/SCSI:DO7.93
XRL3:9/SCSI:DO7.44
XRL3:10/SCSI:DO7.92
XRL3:11/SCSI:DO7.43
XRL3:12/SCSI:DO7.91
XRL3:13/SCSI:DO7.42
XRL3:14/SCSI:DO7.90
XRL3:15/SCSI:DO7.41
XRL3:16/SCSI:DO7.89

NOTES

1. EXISTING PANEL NOS & EXISTING DRAWING NOS TO BE VERIFIED AT SITE.

LEGEND

M1 – DIGITAL REVENUE METER (CI 0.2)

FT – FIELD TEST SWITCH

ABB Contracting Co., Ltd.

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0	12/01	MRA	DETAIL DESIGN	MRA	AS	

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Saudi Electricity Company

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DATE STARTED _____ DATE COMPLETED _____

OPR'G. DEPT. _____ ENG. DEPT. _____

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

CONNECTION TABLES FOR THE DIGITAL I/O BOARD S/S 8501

ALMAJMAA SAUDI ARABIA

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195358	10 OF 10	00

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195358	10 of 10	00

SEC CAD-A 12004/031
DMB VECTOR

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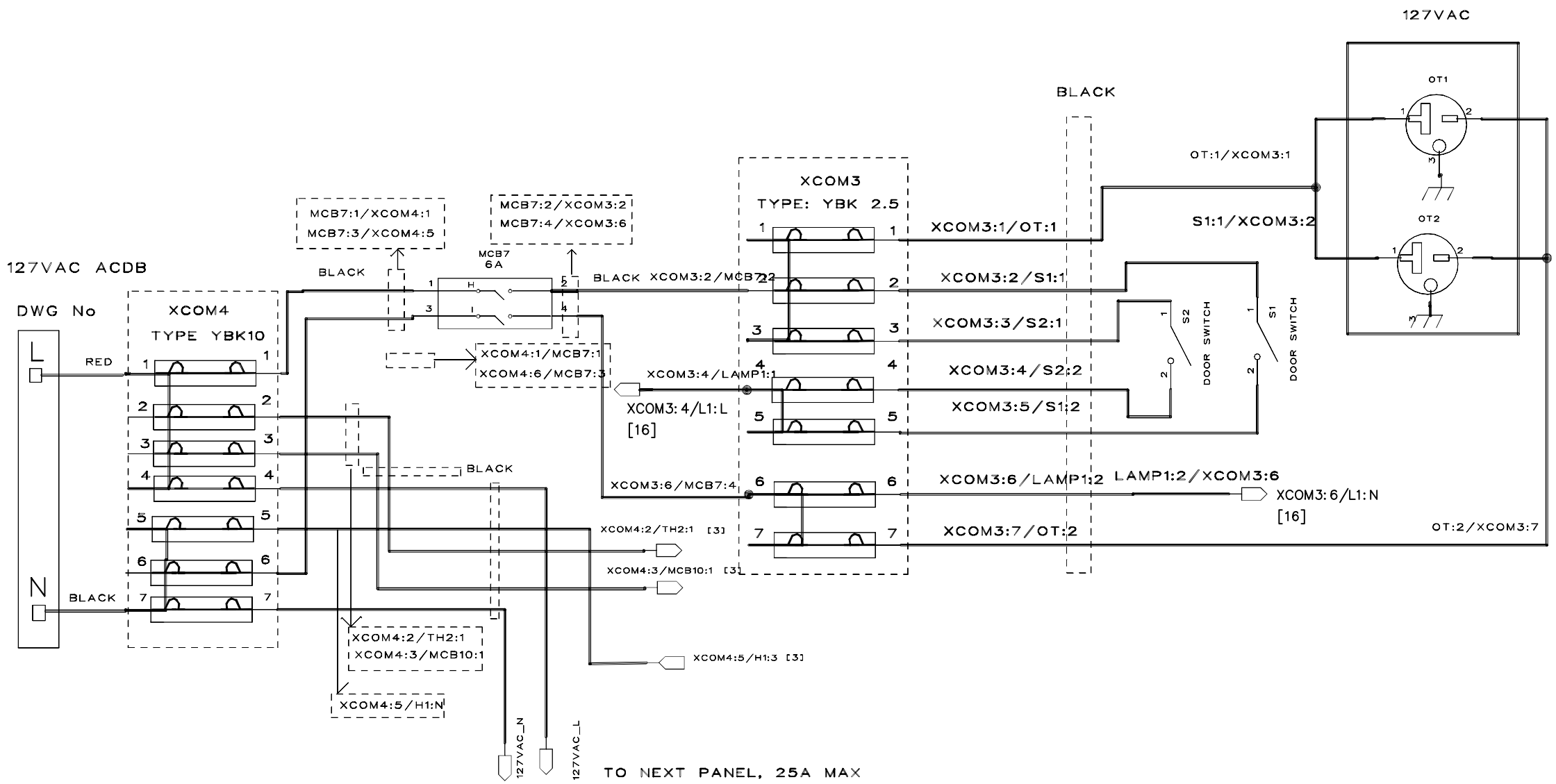
JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195358	02 OF 10	00



NOTES

1. EXISTING PANEL NOS & EXISTING DRAWING NOS TO BE VERIFIED AT SITE.

LEGEND

PSTN – PUBLIC SWITCHED TELEPHONE NETWORK

ABB Contracting Co., Ltd.

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

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Saudi Electricity Company

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

127VAC AND TEL CONNECTIONS INSIDE PANEL

S/S 8501

ALMAJMAA SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195358	02 of 10	00

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
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SEC CAD-A 12004/031
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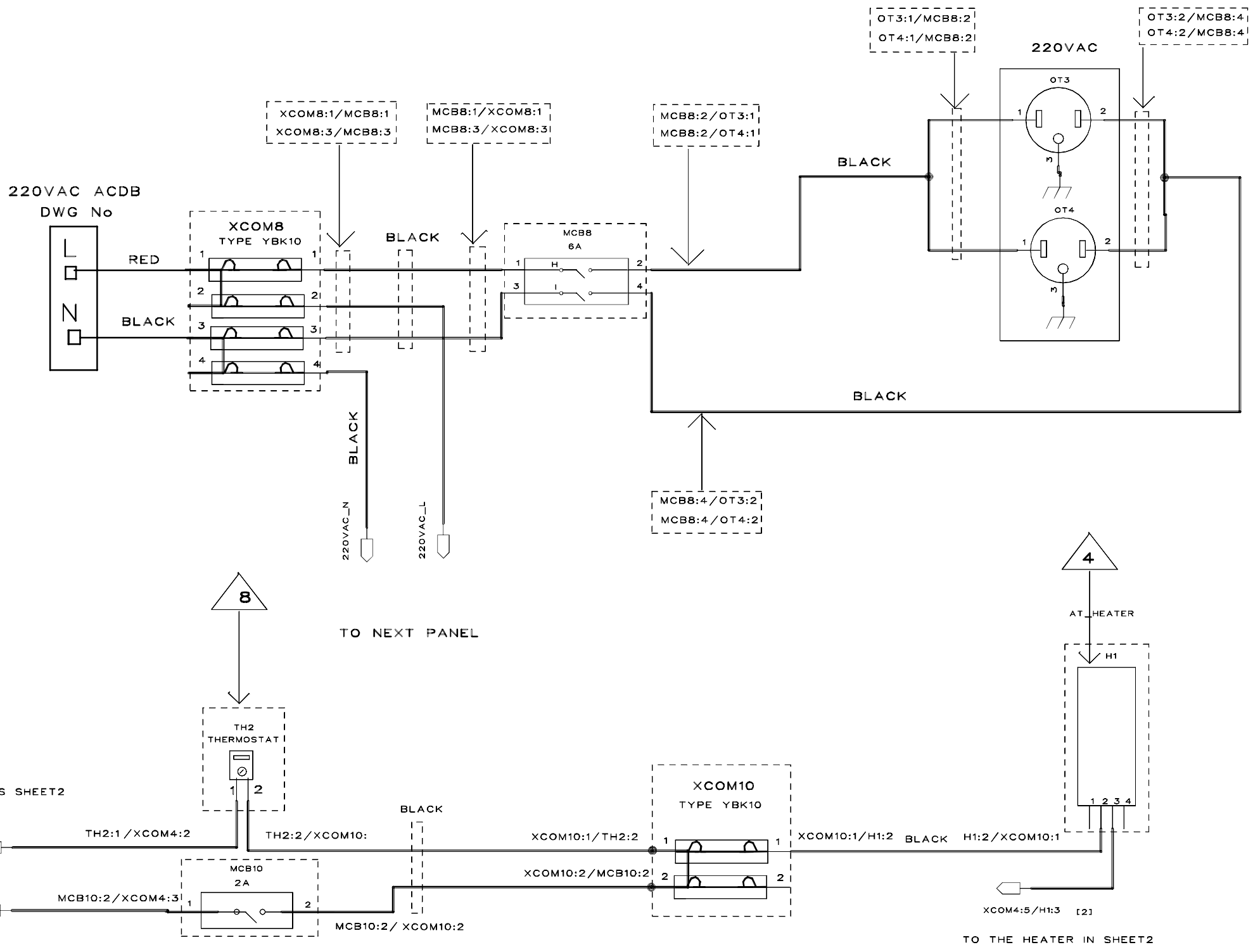
10931027/00	P	C208	CD-195358	03 OF 10	00



NOTES

1. EXISTING PANEL NOS & EXISTING DRAWING NOS TO BE VERIFIED AT SITE.

LEGEND

AT_HEATER – ANTI CONDENSATION HEATER

ABB Contracting Co., Ltd.

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

127VAC AND TEL CONNECTIONS INSIDE PANEL

S/S 8501

ALMAJMAA **SAUDI ARABIA**

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195358	03 of 10	00

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
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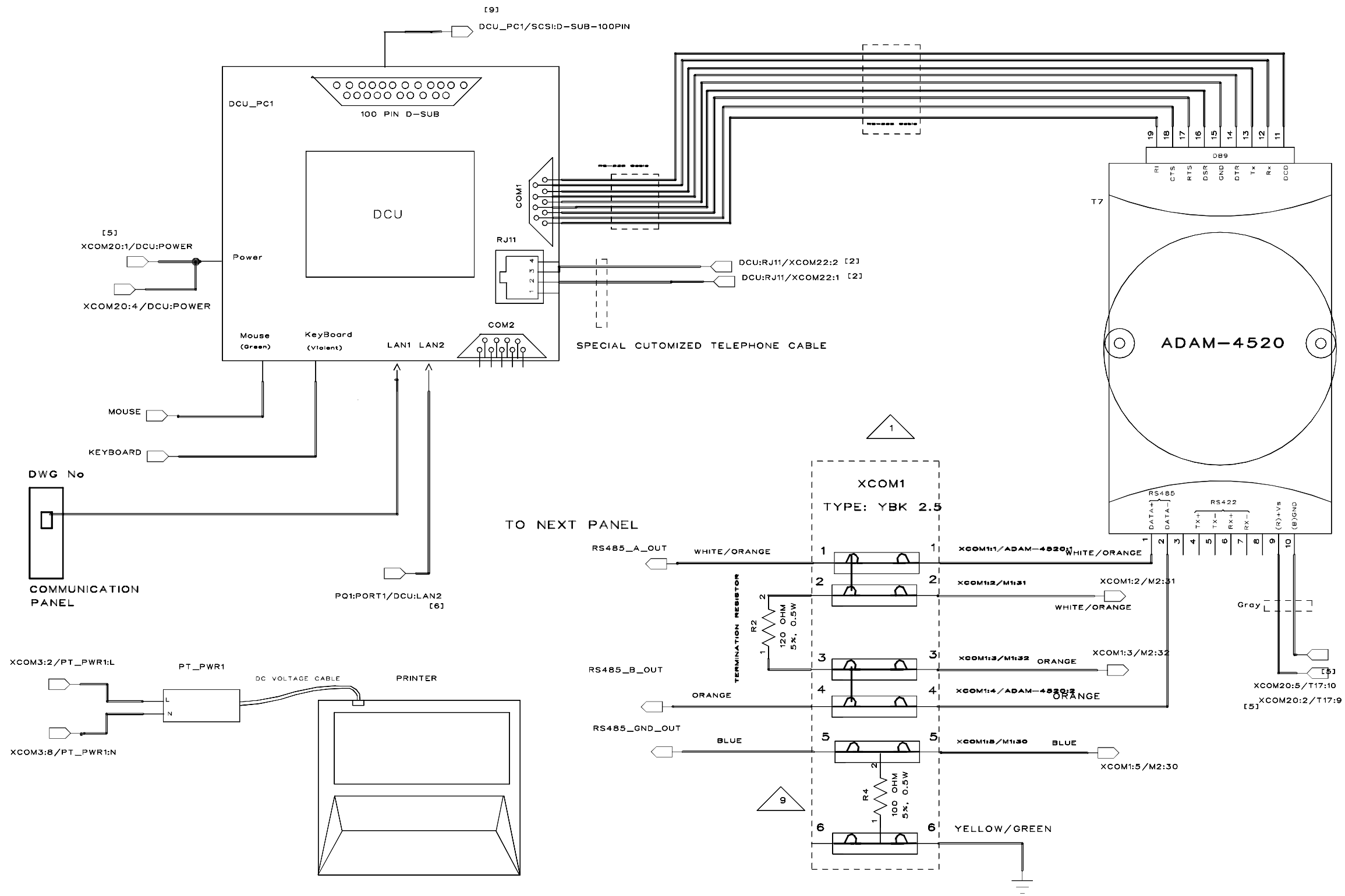
DMB VECTOR

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195358	04 OF 10	00

COMMUNICATION INTERCONNECTION



NOTES

1. EXISTING PANEL NOS & EXISTING DRAWING NOS TO BE VERIFIED AT SITE.

LEGEND

DCU – DATA COLLECTION UNIT
COM – SERIAL PORT
ADAM–4520 – RS232 TO RS485 CONVERTER

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD–195353

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0	12/01	MRA	DETAIL DESIGN	MRA	AS	

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Saudi Electricity Company

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E–123456 REV NO. 00

DCU PC COMMUNICATION CONNECTIONS
INSIDE PANEL
S/S 8501
ALMAJMAA SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD–195358	04 of 10	00

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
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SEC CAD–A 12004/031
DWG VECTOR

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JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195358	05 OF 10	00

NOTES

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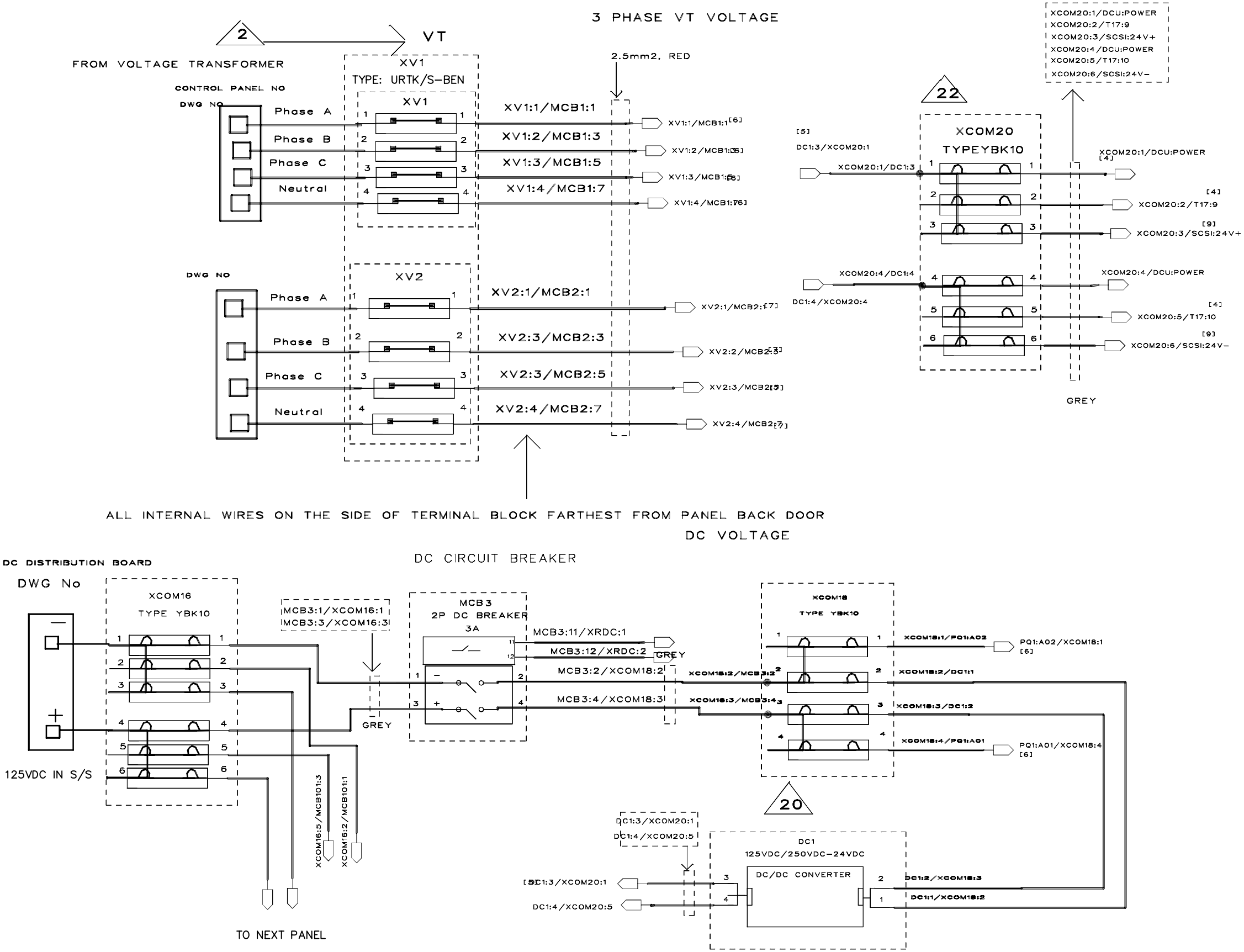
LEGEND

VT1A & VT2A – DOUBLE BUSBARS AT S/S

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353



REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0	12/01	MRA	DETAIL DESIGN	MRA	AS	

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Saudi Electricity Company

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

VT AND DC SUPPLY CONNECTIONS
INSIDE PANEL
S/S 8501

ALMAJMAA — SAUDI ARABIA

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195358	05 OF 10	00

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195358	05 of 10	00

SEC CAD-A 12004/031 DWG VECTOR

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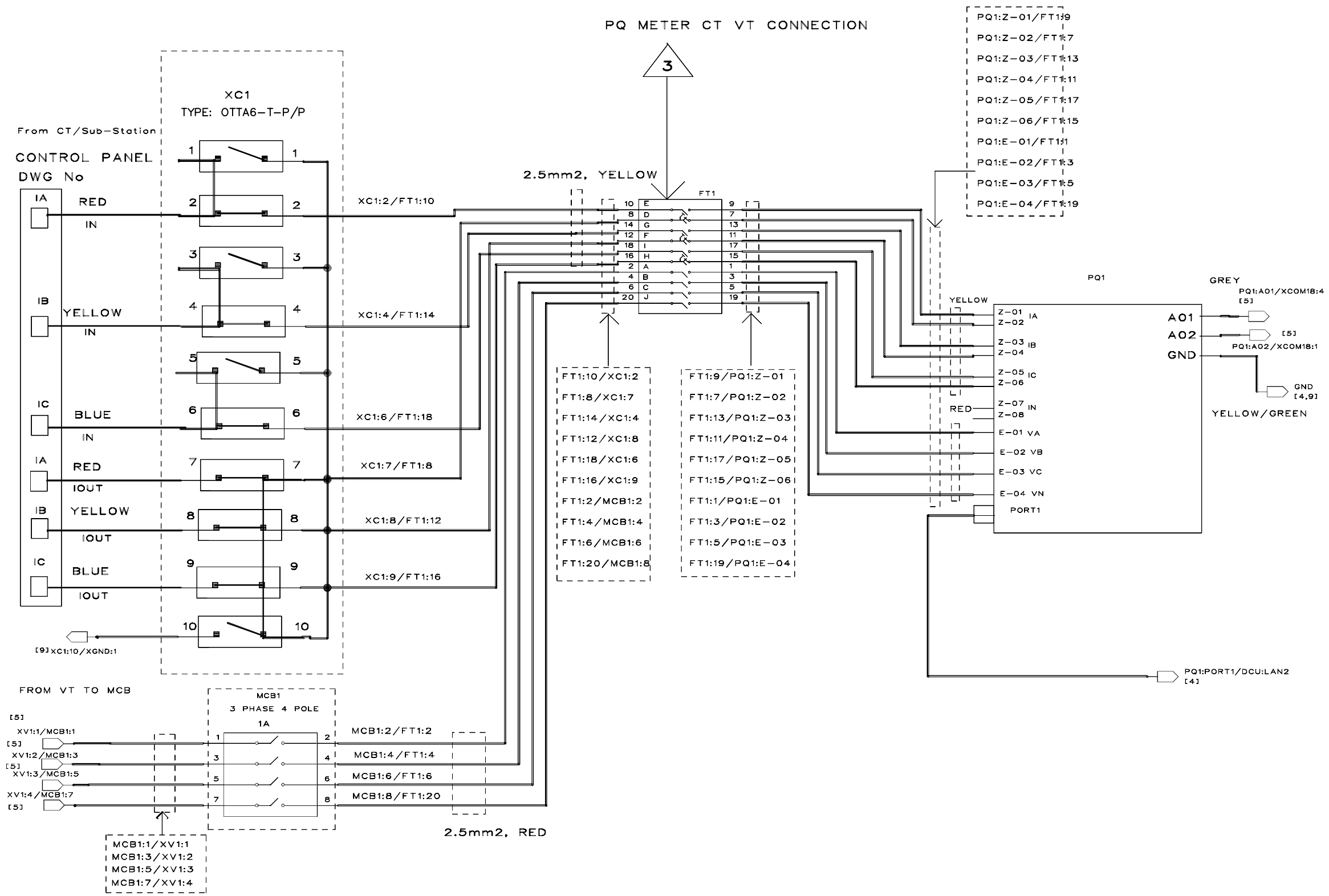
JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195358	06 OF 10	00

PQ METER CT VT CONNECTION



NOTES

1. EXISTING PANEL NOS & EXISTING DRAWING NOS TO BE VERIFIED AT SITE.

LEGEND

PQ – POWER QUALITY METER
FT – FIELD TEST SWITCH

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

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0	12/01	MRA	DETAIL DESIGN	MRA	AS	

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Saudi Electricity Company

DRAWN BY. MRA CHECKED BY AS SCALE: NONE
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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

PQ METER CONNECTION INSIDE PANEL

S/S 8501

ALMAJMAA **SAUDI ARABIA**

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195358	06 of 10	00

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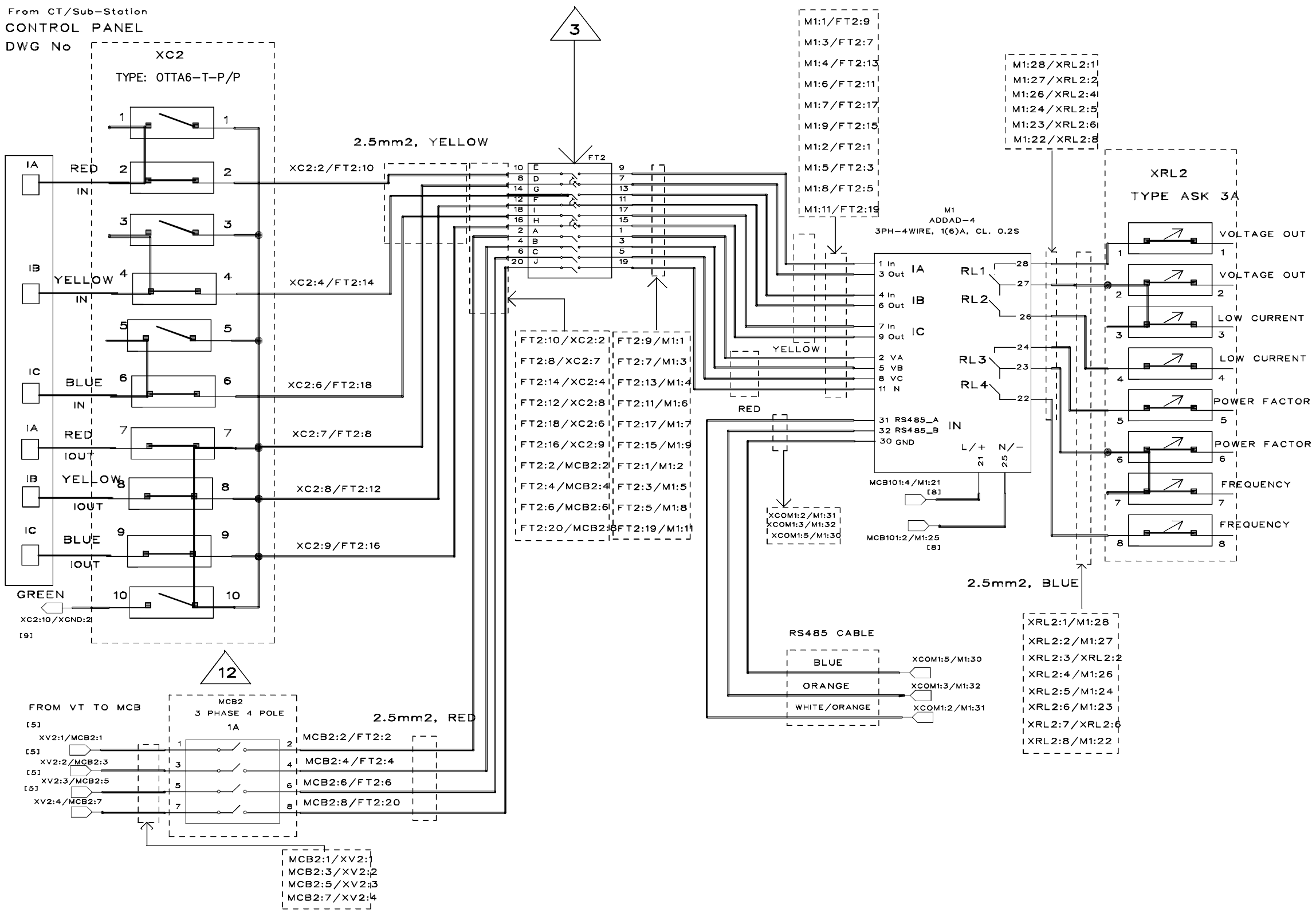
SEC CAD-A 12004/031 DMB VECTOR

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195358	07 OF 10	00



NOTES

1. EXISTING PANEL NOS & EXISTING DRAWING NOS TO BE VERIFIED AT SITE.

LEGEND

M1 – DIGITAL REVENUE METER (CI 0.2)

FT – FIELD TEST SWITCH

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0	12/01	MRA	DETAIL DESIGN	MRA	AS	

الشركة السعودية للكهرباء
Saudi Electricity Company

DRAWN BY MRA CHECKED BY AS SCALE: NONE

DATE STARTED _____ DATE COMPLETED _____

OPR'G. DEPT. _____ ENG. DEPT. _____

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

REV METER CONNECTION INSIDE PANEL

S/S 8501

ALMAJMAA SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195358	07 of 10	00

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195358	07 OF 10	00

SEC CAD-A 12004/031
DMB VECTOR

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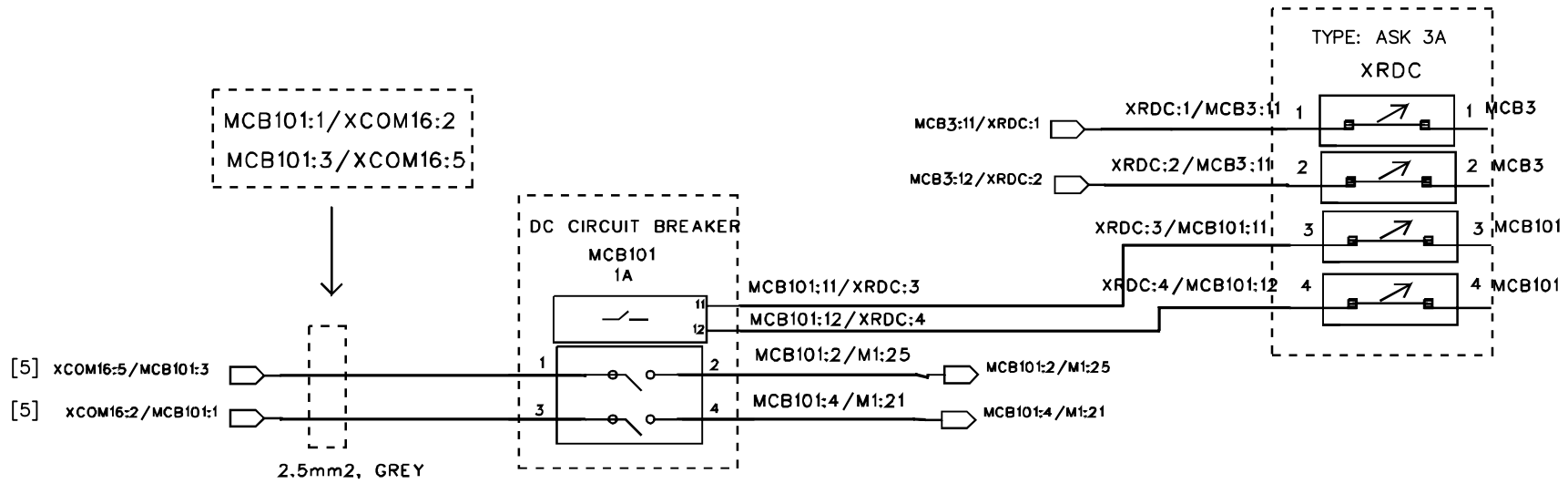
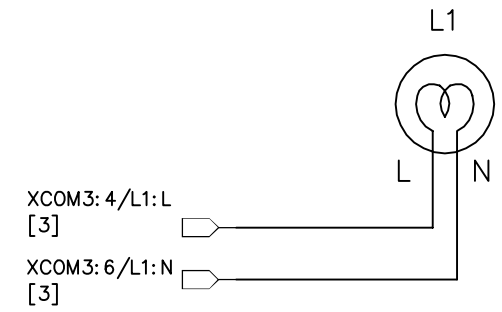
JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195358	08 OF 10	00





NOTES

1. EXISTING PANEL NOS & EXISTING DRAWING NOS TO BE VERIFIED AT SITE.

LEGEND

PSTN – PUBLIC SWITCHED TELEPHONE NETWORK

ABB Contracting Co., Ltd.

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
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Saudi Electricity Company

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

DC VOLTAGE CONNECTIONS INSIDE PANEL

S/S 8501

ALMAJMAA SAUDI ARABIA

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195358	08 OF 10	00

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195358	08 of 10	00

SEC CAD-A 12004/031
DMB VECTOR

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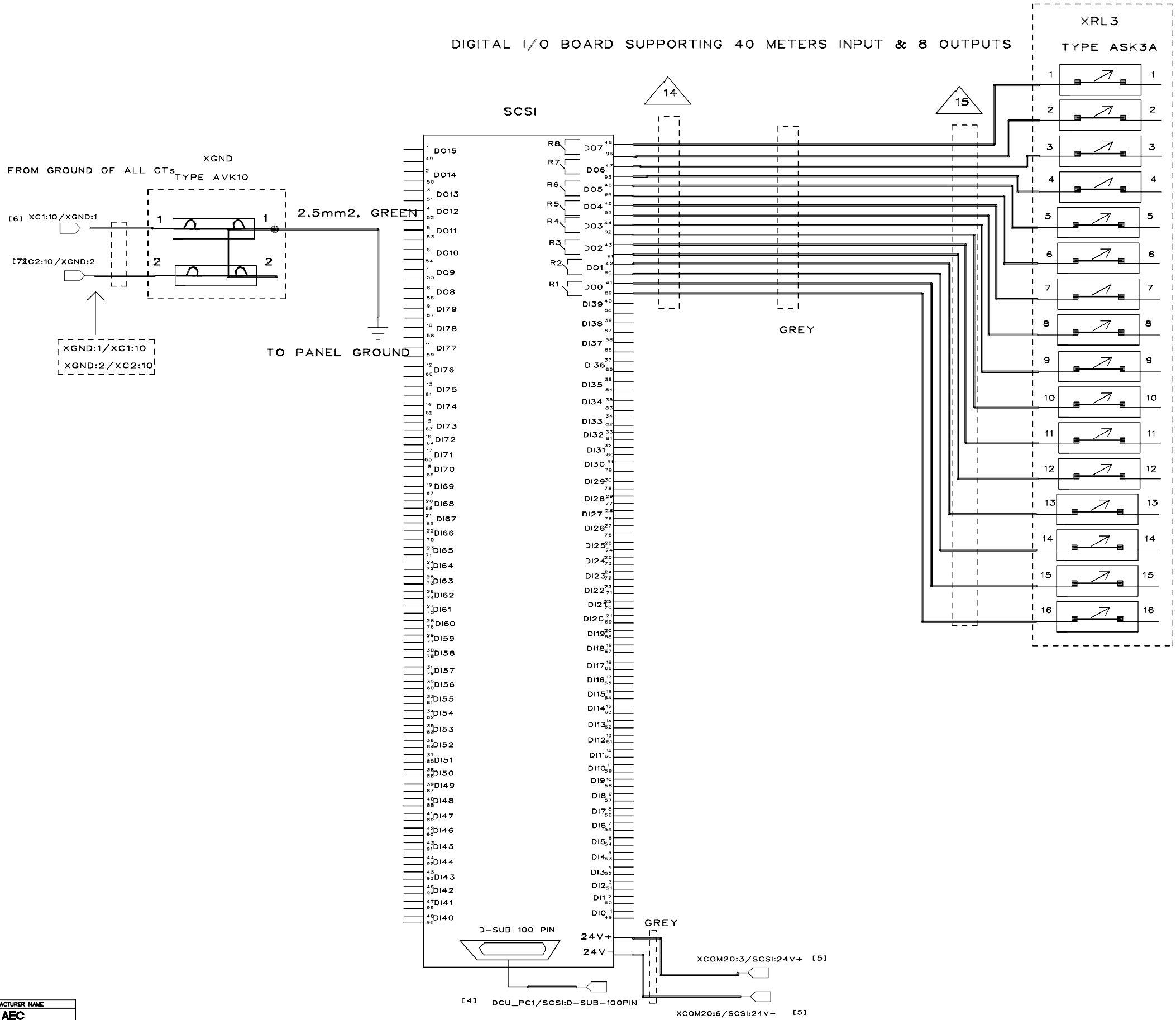
JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
10931027/00	P	C208	CD-195358	09 OF 10	00

DIGITAL I/O BOARD SUPPORTING 40 METERS INPUT & 8 OUTPUTS



NOTES

1. EXISTING PANEL NOS & EXISTING DRAWING NOS TO BE VERIFIED AT SITE.

LEGEND

SCSI – DIGITAL INPUT OUTPUT BOARD

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	CD-195353

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0	12/01	MRA	DETAIL DESIGN	MRA	AS	

AS-BUILT BY _____ DATE _____

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Saudi Electricity Company

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

DIGITAL INPUT/OUTPUT BOARD

S/S 8501

ALMAJMAA **SAUDI ARABIA**

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
10931027/00	P	C208	CD-195358	09 of 10	00

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
CD-195358	09 OF 10	00

SEC CAD-A 12004/031
DMB VECTOR

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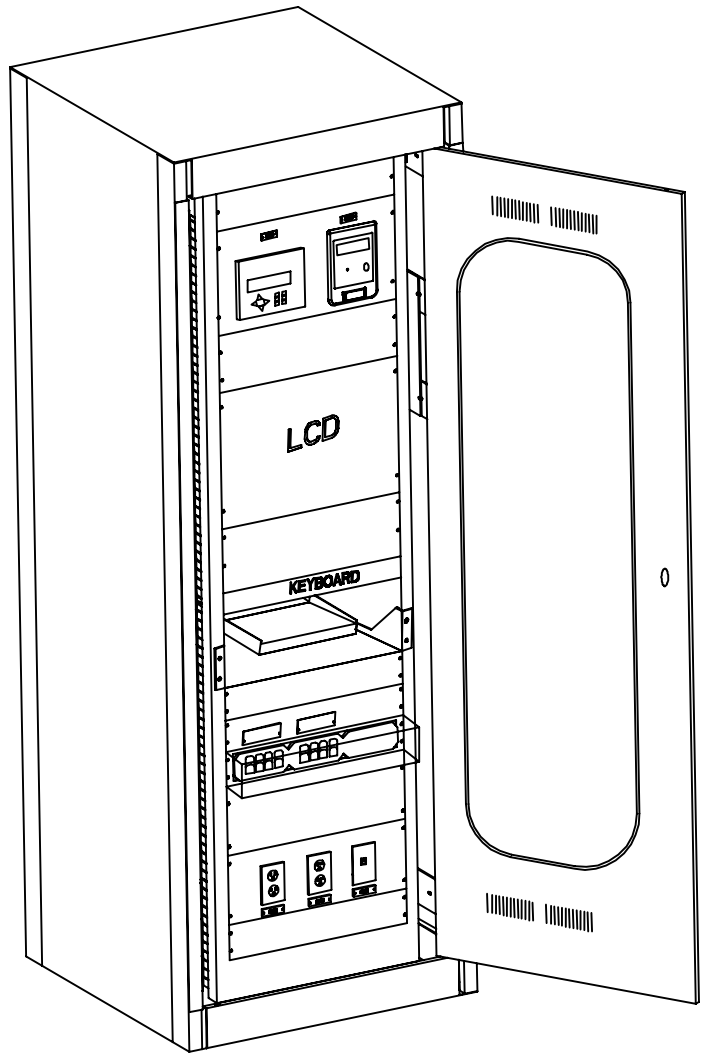
JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
	A			01 OF 03	00

PANEL SPECIFICATIONS :

1. THE PANEL IS MADE OF 2MM THICKNESS STEEL SHEET INCLUDING THE DOORS.
2. PANEL'S BOTTOM COVERED BY THREE PLATES EACH FABRICATED FROM 3MM THICKNESS STEEL SHEET.
3. THE PANEL IS POWDER COATED BY RAL 7038 FROM OUTSIDE AND RAL 9003 FROM INSIDE.
4. THE PANEL IS FABRICATED ACCORDING TO CLAUSE NO. 4.1 OF 31-TMSS-01.



DESCRIPTION
DCU PANEL, ONE POWER QUALITY AND ONE REVENUE METER 3P4W 1(6)A WITHOUT CHANGE OVER CONTACTS

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.
2. PANEL IS CONSTRUCTED ACCORDING TO 31-TMSS-01.
3. THE PANEL IS POWDER COATED BY RAL 7038 FROM OUTSIDE AND RAL 9003 FROM INSIDE.

LEGEND

GA : GENERAL ASSEMBLY
LA : LIST OF APPARATUS
M : REVENUE METER

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
0		AM	DETAIL DESIGN	AM	AS	

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Saudi Electricity Company

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

GA AND LA DRAWING
DCU PANEL, 1 PQ AND 1 RM, 3P4W
ADDAD WITHOUT CHANGE OVER CONTACTS
SAUDI ARABIA

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
	01 OF 03	00

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
	A			01 of 03	00

SEC CAD-A 12004/031
DMS VECTOR

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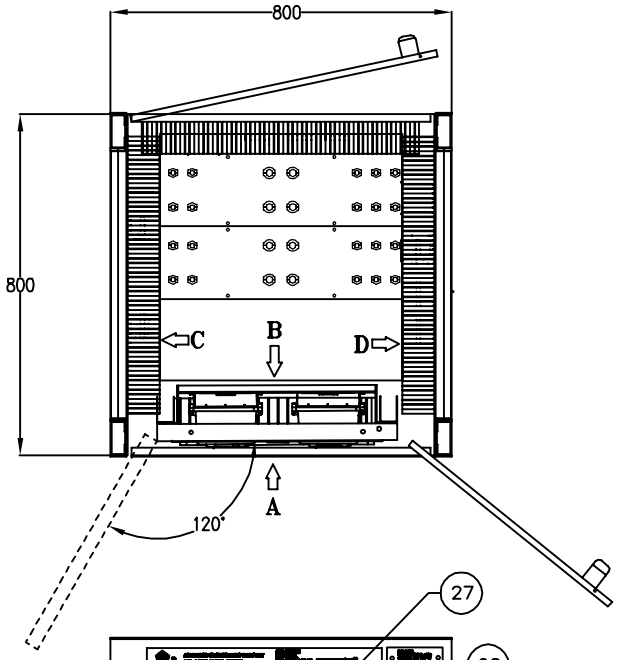
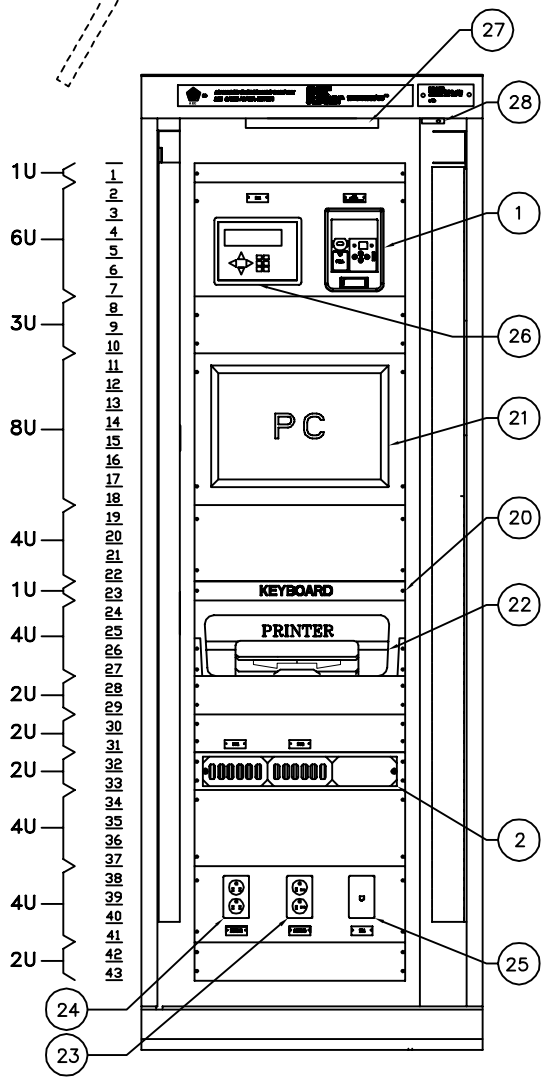
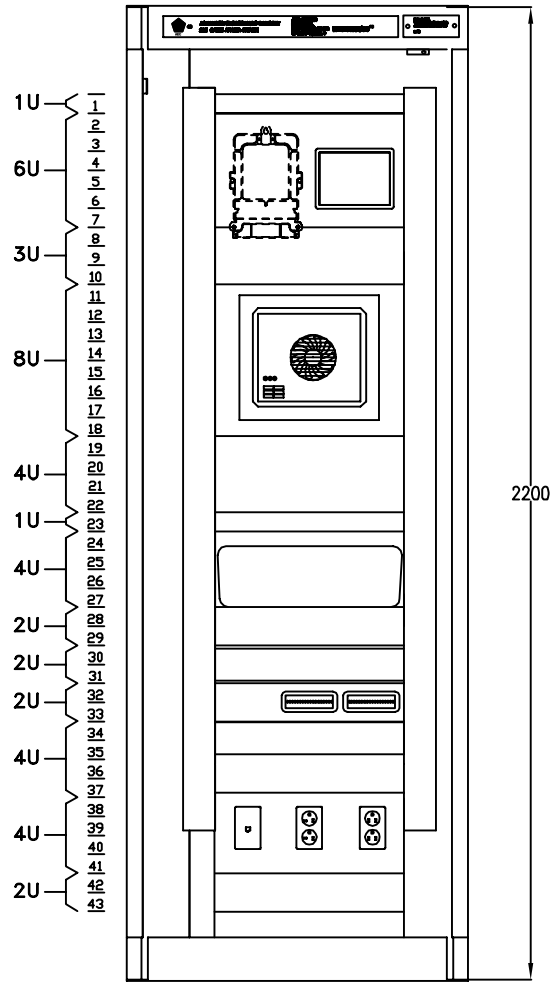
JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
				02 OF 03	00



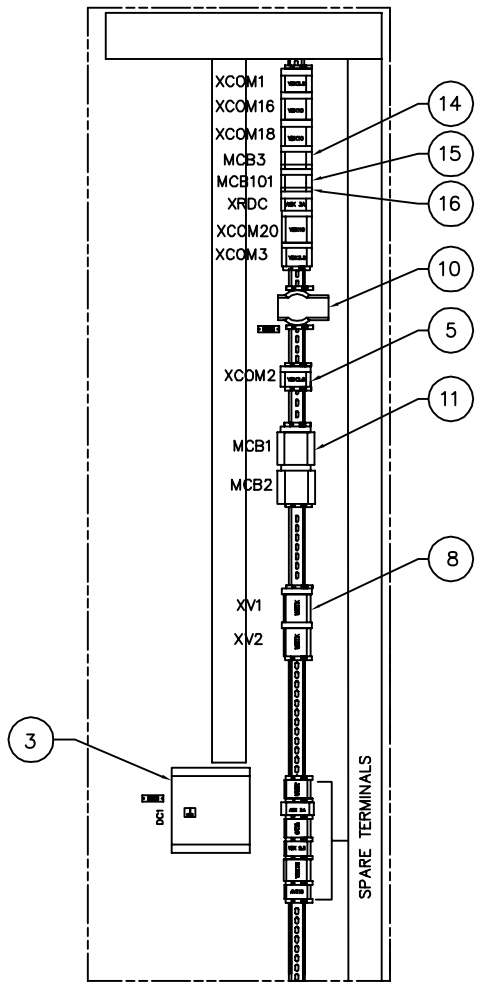


FRONT VIEW OPEN DOOR

PLAN–A

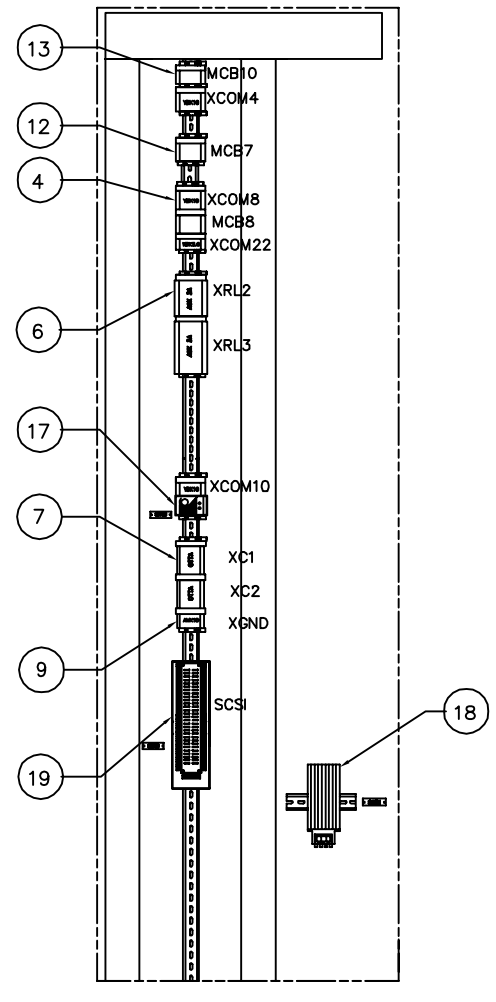


PLAN–B



PANEL INTERIOR BASE LEVEL

PLAN–C



PANEL INTERIOR BASE LEVEL

PLAN–D

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.
2. PANEL IS CONSTRUCTED ACCORDING TO 31–TMSS–01.

LEGEND

GA : GENERAL ASSEMBLY

LA : LIST OF APPARATUS

M : REVENUE METER

ABB Contracting Co., Ltd.

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
DRAWING CONTROL SHEET	

AS-BUILT BY _____ DATE _____

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0		AM	DETAIL DESIGN	AM	AS	

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Saudi Electricity Company

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DATE STARTED _____ DATE COMPLETED _____

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APPROVAL/CERTIFICATION INFORMATION
DOC NO. E-123456 REV NO. 00

GA AND LA DRAWING

DCU PANEL, 1 PQ AND 1 RM, 3P4W

ADDAD WITHOUT CHANGE OVER CONTACTS

SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
				02 OF 03	00

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
	02 OF 03	00

SEC CAD–A 12004/031

DWG VECTOR

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JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NO.	SHEET NO.	REV NO.
				03 OF 03	00

QTY	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL / SPECIFICATION	ITEM
2		Z15G1307 OR AZ7310	LIMIT SWITCH	HIGHLY LIMIT SWITCH 15A 125/220 VAC LIMIT SWITCH WITH 10A 250V AC MAX	28
1		1X20 MODEL 2004 ELECTRONE OR 60620	LAMP 127VAC OR 220VAC	ALRAED, FLUORESCENT LAMP, 20W, 60HZ. 127VAC OR 220VAC PANEL LAMP –230VAC, 50Hz	27
1		0734P09H1D1316 EXX6D2A	POWER QUALITY, SEL 734P	SEL, BAHRAIN, POWER QUALITY METER CL 0.2S, 1A ALTERNATIVE P/N (0734P19H1D1316EXX6D2A)	26
1		TPTE1–I	TELEPHONE JACK	SANA, RIYADH, RJ11, TELEPHONE JACK WALL PLATE	25
1		3232–I	DUPLEX RECEPTACLES 110VAC	SANA, RIYADH, 2POLE, 3WIRE, GROUNDING DUPLEX RECEPTACLES, 15A 127V, IVORY.	24
1		5822–I	DUPLEX RECEPTACLES 220VAC	SANA, RIYADH, 2POLE, 3WIRE, GROUNDING DUPLEX RECEPTACLES, 20A 220V, IVORY.	23
1		D2663	HP D2663 DESKJET PRINTER	HP, DESKJET D2663COLOUR INKJET PRINTER, 150 WATT, 120–240 VAC	22
1		APC–3515	INDUSTRIAL PANEL PC MODEL APC–3515	APLEX TECH, 15" LCD, COXE 2 DUO T5450, 1.6GHZ, 1 GB DRAM, DUAL 10/100 MBPS LAN, 2 COM, 4 USR 2.0 PORTS, IPE 5, FRONT PANEL, STD BEZEL WITH CD ROM, 80 GB HARD DRIVE	21
1		KBD–6312	KEYBOARD WITH DRAWER	ADVANTECH	20
1		PCI1753–OP–CAB(AEC)	PCI–1753 CARD	C3 AUTOMATION, WITH TERMINAL BOARD AND CABLE	19
1		06020.0–00	ANTI CONDENSATION HEATER	STEGO, ANTI CONDENSATION HEATER CS 060 SERIES, 150 WATT, 120–240 VAC	18
1		01140.0–00	THERMOSTAT KTO 011, 0–60°C	STEGO, THERMOSTAT KTO 011, 0–60°C NORMALLY CLOSED AND CLIP FOR 35MM DIN RAIL	17
2		26924	AUXILIARY CONTACT, TYPE "OF"	SCHNEIDER,	16
1		20541	DC MCB, 2P 1A	SCHNEIDER, C32H, U CURVE, 2 POLE DC MCB, 1A	15
1		MGN61523	DC MCB, 2P 3A	SCHNEIDER, C60H, C CURVE, 2 POLE DC MCB, 3A	14
1		25640	AC MCB, 1P1P 2A	SCHNEIDER, C60H, C CURVE, SINGLE PHASE 1 POLE, 2A	13
2		25855	AC MCB, 1P2P 6A	SCHNEIDER, C60H, B CURVE, SINGLE PHASE 2 POLE, 6A	12
2		25007	AC MCB, 3P4P 1A	SCHNEIDER, C60H, C CURVE, THREE PHASE 4 POLE, 1A	11
1		ADAM–4520–D2E	ISOLATED RS485 TO RS232 CONVERTER	ADVANTCH; C3 AUTOMATION	10
3		304150	FEED THROUGH TERMINAL AVK10	KLEMSAN, TYPE AVK10 FEED THROUGH TERMINAL WITH 100 TERMINAL/PACK, GRAY	9
9		0309086	DISCONNECT TYPE TERMINAL BLOCK URTK/S–BEN	PHOENIX, TYPE URTK/S–BEN DISCONNECT TYPE, 10MM2 , 50 TERMINALS PER PACK, GRAY	8
22		0790462	DISCONNECT TYPE TERMINAL BLOCK OTTA 6–T–P/P	PHOENIX, TYPE OTTA 6–T–P/P DISCONNECT TYPE, 6MM2 , 50 TERMINALS PER PACK, GRAY	7
30		353109	DISCONNECT TERMINALS ASK3A	KLEMSAN, TYPE ASK3A DISCONNECT TERMINALS WITH DOUBLE TEST SOCKET, 20/PACK, GRAY	6
22		306229	SPRING CLAMP TERMINAL, YBK2.5	KLEMSAN, TYPE YBK2.5 SPRING CLAMP TERMINAL WITH 100 TERMINAL/PACK, GRAY	5
31		306259	SPRING CLAMP TERMINAL, YBK10	KLEMSAN, TYPE YBK10 SPRING CLAMP TERMINAL WITH 20 TERMINAL/PACK, GRAY	4
1		HFR24/50–125	DC/DC CONVERTER	C~CAN,	3
1		FR2H014014000N	FT–SWITCH KIT, 2	ABB RIYADH, KIT OF 2 FT–SWITCH, WITH SCREWS, COVER AND MOUNTING PLATE 2U	2
1	SE455	900–003524	ADDAD–4 CL0.2S , TOP ASSEMBLY, RS485 1(6)A	AEC, RIYADH	1

PARTS LIST

MANUFACTURER NAME		
AEC		
DRAWING NO.	SHEET NO.	REV NO.
	03 OF 03	00

NOTES

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2. PANEL IS CONSTRUCTED ACCORDING TO 31–TMSS–01.

LEGEND

GA : GENERAL ASSEMBLY

LA : LIST OF APPARATUS

M : REVENUE METER

ABB Contracting Co., Ltd. P.O.Box 91926 Riyadh 11643 Tel: 2653030 C.R.1010028640

REFERENCE DRAWINGS

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DRAWING CONTROL SHEET	

AS-BUILT BY _____ DATE _____

REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT.	APPD
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Saudi Electricity Company

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GA AND LA DRAWING
DCU PANEL, 1 PQ AND 1 RM, 3P4W
ADDAD WITHOUT CHANGE OVER CONTACTS
SAUDI ARABIA

JOB ORDER NO.	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
				03 OF 03	00

SEC CAD–A 12004/031
DMB VECTOR

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